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HINTS FOR THE SEASON.

By the time this number reaches you, kind reader, your corn is probably not only planted but out of the ground, and ready to receive a small handful of ashes and plaster on each hill. If, however, owing to wet land, the lateness of the season, or the multiplicity of those things which *must* be attended to early in the spring or not at all, you have not been able to finish all your planting, do not give up the attempt before the 10th of June. Last year, in this vicinity, at least one excellent crop of corn was raised from seed *planted on the seventeenth of June.*

If the ground can be got into fine condition, we should not hesitate to plant corn in this vicinity the first, or even the second week of June. Get a good variety of corn, and soak it in warm water for about 24 hours, and if the soil is fine, moist and warm, the plants will be up and growing vigorously in a few days. Some years ago, one of our correspondents stated that he had found great advantage in soaking seed corn in water containing a little carbonate of ammonia, (hartshorn.) We do not doubt it; but the idea that the small quantity of ammonia absorbed by the seed could have any great fertilizing effect, is hardly consistent with our ideas of vegetable nutrition and growth. The hartshorn probably proved beneficial because it softened the woody fibre of the seed, and thus accelerated the absorption of water and oxygen, the two great agents in the promotion of that decomposition of the elements of the seed which always precedes germination. It is quite probable that the addition of a little lye from wood ashes would have the same effect, though ammonia may be the better alkali. Last year an intelligent nurseryman of this city planted some peach pits late in the season; and wishing to forward them as much as possible, he soaked the pits in water containing a small quantity of potash. The experiment was in every way satisfactory. The trees came up nearly as soon, and did quite as well as those planted some weeks earlier. We have little doubt, therefore, that it would prove an advantage to soak corn in an alkaline water for some hours before planting, at this season. We would certainly not smear it with tar, as it is well known that this retards germination—probably from forming round the seed a coat impervious to water and air.

MILLET.—After you have got through corn planting, do not forget to sow a few acres of millet. It will grow on land which is so wet in the spring that it cannot be got ready in time to plant corn. In fact, low, rich, loose, mucky land, abounding in organic matter, is just the soil for millet. Let the land be plowed, and harrowed fine before sowing the seed. Then sow, broadcast, from one to two pecks per acre, and roll or brush harrow it in; or if you have a light pair of harrows, pass them over the field. If you have any places in your wheat fields where the wheat is nearly all killed on account of stagnant water, or the mucky nature of the soil, harrow or rake in a little millet seed. See article on "Millet for Soiling and for Fodder," in our April number.

WHITE BEANS.—We trust that our article on the cultivation of the White Bean, in the March number, has induced some of our readers to pay more attention to this crop. The last week in May is probably the best time to plant, but there are many instances recorded where white beans have done well planted the first or even the second week in June. If you have not planted, therefore, let us again urge you to do so. It is not too late. Give them a trial, and see if you do not find them a profitable crop, and one which, while it does not impoverish the soil, leaves it in good condition for the following wheat crop. Plant in rows two and a half feet apart, and eighteen inches to two feet in the rows, six seeds in a hill. If the seeds were soaked for from 12 to 24 hours in warm water, and then dried by mixing them with plaster, they would soon germinate. As soon as the rows can be seen, set the cultivator to work, and by its frequent use, and a little hand hoeing, keep the crop clean, and you will be abundantly repaid for all your labor.

POTATOES.—We are not in favor of planting potatoes as late as the first or second week in June, as is frequently practised, if not recommended, by many good farmers. The crop is seldom as large or the tubers as sound from late as from early planting. Still there are instances where good and sound crops have been obtained from potatoes planted as late as the middle of June. The cool, moist climate of England is much more favorable for the cultivation of potatoes than the short, hot, dry summers of this country. This fact should teach us to make the soil cool and moist for potatoes. In rather heavy soil, deep and thorough pulverization before the potatoes are planted, and the frequent use of the horse hoe between the rows till the tops cover the ground, are the best means to secure this end. On very light, sandy soils, nothing is so good as mulching. Anything that will shade the soil answers the purpose. But do not try to shade the ground by letting the weeds grow! We have met with persons ignorant enough to suppose

that grass and weeds kept the ground cool and moist. Nothing can be more erroneous. All plants take up large quantities of water from the soil and evaporate it through their leaves. Dig down about six inches into a grass field, and into a well worked fallow, and you will find that the soil of the grass field is much drier than that of the fallow. The grass has pumped up the water and it has evaporated into the atmosphere. All weeds do the same, and if we would keep our potato land cool and moist, it is absolutely necessary that all weeds be destroyed.

With potatoes, as with all other hoed crops, the labor of weeding is much lessened by attending to it as early as possible. As we stated in our article on the Cultivation of Potatoes, in the March number, harrowing the ground a few days before the plants are expected to break through kills or checks the weeds, and thus enables us the sooner to distinguish the rows of potatoes, and to use the cultivator. The harrow should not be too heavy. A light harrow used with care will pull up very few potatoes. If it is a double harrow, the inside harrow should be lifted up in turning, and it is better to harrow round a strip of land so as to avoid turning too short. Some farmers use a bush harrow, and this while it checks the weeds, does not pull up any of the potatoes. On light sandy soils, a table-spoonful of plaster scattered on the hill soon after the potatoes make their appearance, will generally be found beneficial.

Summer Fallows.—Except on heavy, clay land, we should seldom resort to a summer fallow for cleaning the soil and preparing it for a wheat crop. By summer fallowing we mean the old practice of breaking up in the fall or early in the spring, cross plowing during the summer months, and plowing again a few days previous to sowing the seed, with the frequent use of the harrows and roller during the summer. On heavy clays, such a system may be necessary, and unquestionably gives good results, but it is very expensive. In Western New York, this system is becoming less and less common every year. Before the introduction of turnip culture, and the invention of Croskill's Clod Crusher, it was the general method of preparing the land for wheat in Great Britain. At the present time it is seldom resorted to. There is far less necessity for it in this country than in England. Our severe winters and hot summers have such a pulverizing effect on the soil, that the American farmer can get his soil into good condition for wheat, or any other crop, with far less labor than is required in England. A few years ago we were breaking up a heavy piece of sod with four horses, in the middle of June, when we were visited by an experienced English agriculturist. We were turning over a furrow seven inches deep, and fifteen to eighteen inches wide, when the following conversation took place:

"What are you going to do with this piece?"

"Sow it to wheat."

"When?"

"The last week in September."

"You mean next September, twelvemonth?"

"Not at all; I shall put on a pair of heavy harrows in about a fortnight, as soon as the grass begins to start through the furrows, and so smother up the grass and kill it, repeating the process as often as there is any appearance of weeds; and about the middle of September plow it again, and harrow and roll it till I get what you English farmers call 'a good seed bed.'"

"If you do I shall be very much mistaken. I have just such land as this in England; and I 'pin-fallow' it in November, and plow it again in March, and go over it with a roller and harrows, (the harrows being fastened to the roller, and thus making it press harder on the ground,) then plow again in June or July, and roll and harrow as before, generally two or three times, and in October, just before sowing, I plow it up into lands four yards wide; and though my land is well underdrained—which I imagine is not the case with yours—I frequently fail (especially if we should happen to have a wet summer,) of getting as good a seed bed as is desirable."

"Happen to have a *wet summer!* If you should 'happen' to have a dry one, would it not be more remarkable?"

"At it again? Americans are remarkably fond of calumniating our English climate. But never mind; what I tell you is true, and if you ever get this land fit to sow to wheat—I mean, of course, what *we* should call fit—I will acknowledge that this is a *great country*, and that 'Americans can lick all creation,' at least in summer fallowing."

Had this land been so treated in England, we believe, with our friend, that "no implements known in Europe," or America either, could have "pulled it to pieces," and produced a fine tilth in so short a time. But the fact is that we have a great advantage over the British farmer in preparing our land for wheat, and this very field "tumbled all to pieces" at the next plowing, and produced a good crop of wheat.

With our superior climate for pulverizing the soil, we hazard nothing in asserting that if long or summer fallows can be dispensed with in England on all but the heaviest clays, they certainly are not indispensable in this country.

As we have said before, the old fashioned summer fallow is becoming less and less common every year among the wheat growers of Western New York—and there are none more intelligent, as a whole, on this side of the Atlantic. Instead of breaking up the land in the fall, or early in the spring, it is allowed to produce a crop of clover, which is turned under when in bloom, about the middle of June. The land is not plowed afterwards, but is harrowed and cultivated several times during the summer, to kill the grass and pulverize the soil. In this way the land is got into excellent condition at much less labor than by repeated plowings. If the land is rich enough, the clover may be made into hay instead of being plowed under. If this is done, we should wait till the aftermath had obtained considerable growth, especially on light soil, before plowing. We have seen a good crop of clover turned under the last week in August, and the field sown to wheat with good results. On sandy land, free from weeds and grass, this plan can be adopted with advantage. In England, nine-tenths of the wheat crop is raised on a clover sod turned over in September and October immediately before sowing.

Raise Your Own Clover Seed.—Every farmer should grow his own clover seed. There are few things that a farmer can less afford to be sparing of than clover seed. If he grows his own, he will seed down more land than if he has to purchase it from his more enterprising neighbor, or the village seed store. Every farmer—and more especially every wheat grower—should select a piece of his cleanest clover, cut it early in June, and then allow it to go to seed. If the land is in good heart, and clean,

nothing more is required; if poor, 150 to 200 lbs. of good Peruvian guano per acre, sown broadcast as soon as the first crop is removed, during showery weather, will be found a beneficial, and we have little doubt, a profitable application. Plaster increases the foliage of the plants, but it is said, retards the ripening of the seed. Four bushels of clean seed per acre is a fair average crop; but eight bushels may be easily grown by cutting the first crop early, or by eating it off by sheep until the middle of May or first of June. It is important to have the clover as early as possible, since it is frequently injured by frosts in the autumn. After the seed is matured, however, frost does not hurt it; and now that we have several excellent machines for taking off the heads of clover seed, thus avoiding the expense and labor of curing the clover in cool, wet weather, it may be left out late in the fall without any loss or inconvenience.

CULTIVATION OF BUCKWHEAT.

It seems unnecessary to write anything in regard to the cultivation of buckwheat.

Throughout the Eastern, Middle and Western States and the Canadas, it grows almost spontaneously, and it would seem that the only thing requisite to secure a crop is to scatter the seed. It sometimes receives injury from early frosts, but as a general rule, no crop is better adapted to the short, hot summers of the Northern States. Botanically it is not a *cereal*, but its natural character and composition closely resemble this useful order of plants. Except millet, no plant used as food for man can be sown so late in the season; and this to the farmer is one of its most valuable qualities. It is frequently sown after a crop of rye has been taken off the ground, and thus even in the compartively short seasons of the north-eastern States and the Canadas, two crops used as food for man can be obtained from the land the same year —a result seldom or never obtained in the long, damp seasons of the British Isles.

Buckwheat is a plant known in almost every part of the world. It is supposed to have been first grown in Europe about the time of the Crusaders, and the French called it *ble Sarrazin*. In China, Japan, and Russia, it forms a large portion of the food of the inhabitants, and in Switzerland, the south of France, and Flanders, it is cultivated to a considerable extent. It has been grown in England for upwards of three hundred years, but the cool climate of England is not well adapted to its perfect elaboration, and hence it is not very extensively cultivated. In no country does it flourish better than in the United States—no where else do we find the luxury of hot buckwheat cakes so frequently upon the breakfast table.

Buckwheat will grow on the poorest of sandy soils, and it has been extensively cultivated for the purpose of plowing in as a manure. Nevertheless, we are inclined to consider buckwheat as an exhausting crop. Emerson, in the *Farmers' Encyclopedia*, says: "It is generally thought to be a severe crop upon land, and for this reason it is seldom sown upon highly improved ground. Rough and hilly districts are considered peculiarly favorable to the culture of buckwheat, which is admirably adapted to subdue new or wild lands."

Mr. Ballingal, in the *Transactions of the Highland Society*, has given an account of his experiments with it upon a clay loam recently limed; from the results of which he warned his brother farmers that it is "needless to attempt to grow it upon damp soils, or to expect full crops upon lands exhausted by over cropping." We certainly cannot recommend the cultivation of buckwheat for plowing under as a fertilizer. Clover is by far a better crop for this purpose. If the soil is too poor to grow clover, we should expect better results (in the Middle States, at least,) from the white lupine, or some other leguminous plant.

"The mode of culture," says an experienced writer, "has varied considerably since my recollection. It was formerly the custom to reserve the poorest land for buckwheat. It was considered a great reproach to land to say it would produce only buckwheat. The practice was to break up sward land early in the spring, and let it lie until about seeding time, and then cross plow and seed. The practice now among good farmers generally, is to sheep the fields intended for the crop as long as can be done before sowing, and plow but once." The time of sowing varies in this State from the 20th of June to the 4th of July. It is sometimes sown as early as the 10th of June, and as late as the 15th of July. If sown too early it is liable to blast, and if too late it is frequently injured by frost.

When grown for the grain, a bushel of seed to the acre is usually sufficient, and if the ground is rich, it is not safe to sow so much, or it will run too much to straw. It flourishes best in a mellow, dry, loose sandy soil. "No crop," says G. W. Durant, in the *Albany Cultivator*, "will feel manure of any kind, or in any state so quick as buckwheat. Barn-yard manure, whether green or rotted, ashes, lime, plaster, all seem to produce a wonderful effect when applied to this crop. Guano, as far as my knowledge extends, has not been tried, but I have no doubt the effect would be a considerable per cent. above any other manure, barn-yard manure not excepted." We have seen Peruvian guano applied to buckwheat, with the most astonishing effect. One hundred pounds per acre doubling the crop.

The flowers of buckwheat are particularly attractive to bees, and where bees are kept in considerable numbers, at least a small patch of buckwheat should always be sown.

Buckwheat is an excellent food for poultry. Pigs thrive upon and are fond of it, and when bruised it is good food for horses, two bushels being equal (for this purpose, it is said,) to three of oats. Cows, when fed with it, yield a large increase of milk. Sheep, when fed upon the plant when in blossom, stagger and tumble about as if drunk.

We throw out these hints with the hope of eliciting the experience of some of our practical readers.

Mangel Wurzel.—A correspondent says: "I never drop but one Mangel Wurzel seed in a place. This one seed brings two or three plants which I transplant—the transplanted grow as large as the others." Is not our friend mistaken in regard to getting two or more plants from one seed?

He adds: "I don't believe superphosphate of lime would help my beets, or plaster either." Superphosphate would certainly help them during the first stages of their growth, but it is necessary to supply considerable quantity of organic matter—say farm-yard dung—in order to obtain a large crop. They are gross feeders.

THE CULTIVATION OF ROOT CROPS.

At a recent Legislative Agricultural Meeting in Boston, the subject of "Root Crops" was discussed, and we condense from the *New England Farmer* such portions of the discussion as we think may be interesting and useful to our readers at this season:

Simon Brown, Esq., of the *New England Farmer*, said he thought we did not yet fully understand the value of root crops. In England they are highly valued, because more can be obtained from the same surface for the support of cattle, by their cultivation, than by the cultivation of grain, and because they are valuable in producing beef and mutton, which are in great demand there. They are a favorite diet for sheep. With us, there is a prejudice against the cultivation of roots, perhaps on account of the amount of labor required. They need a deep soil, and most farmers have not got into the habit of cultivating deeply. Not more than one farmer in a hundred, in Massachusetts, had made any fair experiments in trenching. There are sandy loams, and in some cases, clay loams, that are well suited to raising roots. If well cultivated, from six hundred to twelve hundred bushels may be obtained from an acre. He had raised parsnips at the rate of twelve hundred bushels to the acre. The mangel wurzel is very easily raised; it grows large, and is always an excellent root for stock. It grows much out of the ground, and therefore seems to require a different kind of cultivation from some other roots. In cultivating, it is necessary to have the ground well pulverized, and then two furrows are turned together, and upon the top of the ridge thus formed, the seed is sown; the ridge being first flattened a little. The labor of harvesting them is less than that of turnips or ruta bagas. Cattle are very fond of them, and they are highly nutritious. He had not succeeded so well with beets as with other roots; but he had no doubt they could be raised at a handsome profit.

Round turnips may be cultivated easily by sowing them upon the land which is designed for grass, the ground being first plowed in July, and thoroughly prepared for grass, and the turnip seed being sown along with the grass seed. From three hundred to seven hundred bushels per acre may be obtained without any extra labor except that of gathering them. This method impoverishes the soil very little.

The advantages of feeding roots to stock were next referred to. He had been told that milk could not be made for market unless the cows were fed on meal of some kind; but he had found it too expensive to feed wholly with meal and hay. Having determined to try roots, after an experiment of feeding six cows with meal one season, he fed the same six cows with the same kind of hay, and with roots, the next season. The roots were of various kinds, the mangel wurzel, beet, ruta baga, round turnip, parsnip and carrot, and these were mixed in feeding. After being milked in the morning, each cow was fed half a bushel of mixed roots, which they ate greedily. There was no complaint of the turnip taste in the milk, and his milk man returned him cash for twice as many cans of milk as he did the year before, when they were fed on grain. That experiment had satisfied him that more milk could be obtained by the use of roots, than by feeding a certain amount of meal a day, say three quarts a day, as he fed his cows the first winter. The milk from roots is perhaps of a poorer quality, but milk *sellers* rarely have any qualms of conscience about that, if they get a greatly increased quantity. Mr. Webster was a careful observer, and rarely talked about farming, anywhere, without bringing in the root crops. He saw that their cultivation would be of great benefit to New England farmers. In closing, Mr. Brown expressed the opinion that more could be made from a given number of acres by the cultivation of roots, than by the cultivation of grasses and grains.

Mr. Williams, of Hadley, was of opinion that root crops might be raised with great advantage, not only in his vicinity, but throughout the State.

Mr. Brown stated the result of feeding round turnips to a cow for fattening, to which he fed thirty bushels, with hay, and made her very fat indeed, so that she was sought by the butchers at a high price. In preparing the land for turnips, he pulverized it well, and levelled with brush harrow. The seed was sown in drills, marked out with a machine prepared by himself. The labor of sowing in that way was very little, and they were weeded principally with a wheel hoe. He had recently seen a plan of a cultivator which weeded both sides of a row at once, but he had not seen it tried.

Mr. J. L. Lovering, of Vermont, said that though root crops were perhaps less cultivated in Vermont than Massachusetts, there are few farmers who do not raise more or less. They raise many sheep, and it is becoming an axiom that no farmer can have a good flock of merino sheep who does not feed them with roots as often as twice a week. The green food seems to prevent some of the diseases to which they are subject when not thus fed. Ruta bagas are raised principally for feeding stock. He had not succeeded well with getting his carrots to germinate, as for some cause or other the seed failed; but when they came up well, he had no difficulty in obtaining a large crop. He had raised at the rate of twelve hundred bushels to the acre, and he thought them better than ruta bagas. Potatoes are still fed to stock a good deal in Vermont. Many are raised, and if they will not bring in market about twenty-five cents a bushel, they are considered worth that to feed out. Some farmers cook ruta bagas before feeding, and one gentleman had recently fattened a pair of old cattle with ruta bagas cooked, and made them very fat. He thought ruta bagas worth twice as much when cooked as when fed raw. Turnips are fed to sheep, and are thought to be better for them than carrots, or other roots, producing a better quality of milk for the lambs.

Gen. Towne, of Worcester county, had a very high opinion of the importance of roots for feeding stock; the sugar beet, for beef and for stock generally, was in his opinion, decidedly the best root that grows. One great advantage in raising them is, that the tops are very good indeed for young hogs. He always meant to have some pigs about the first of September, so that about the first of October the milk of the mother would hardly be sufficient for them. Then he had a yard of sugar beets near, and he would make a little hole in the fence so that the pigs might understand they were getting into mischief by getting among the beets, and they will eat off all the leaves, which are as good as green corn for them, and the eating of them off does not injure the crop at all. He thought the leaves more than paid for the labor of raising those which were near the hog pen.

In sowing them, he took pains to put but a single seed in a place, dropping them in little holes made by a stick, about five inches apart. He was quite particular about sowing them, because it would save the labor of thinning them out. He put them in about two inches deep, and covered with a hoe. The rows were about two feet apart. He did not soak the seed before sowing.

SANDFORD HOWARD, Esq., of the *Boston Cultivator*, thought the idea that turnips make poor milk, was carried too far. He knew a farmer who fed his cows on Swedish turnips and chopped hay, and his customers complained when the turnips were omitted. He knew another man who has kept seventy head of cattle and fed several thousand bushels of turnips, and made excellent butter. At the exhibition of the New York State Agricultural Society, he received the highest premium for butter, his cows having been fed wholly on Swedish turnips and hay. The comparative value of different vegetables is important; but he believed potatoes to be far superior to any other root for feeding to cattle. One winter he fed two cows one week with potatoes, the next with parsnips, and the next with sugar beets, giving them also constantly, two quarts of meal per day. They were fed in this way through the winter, and the result was that the cows did best in those weeks when fed on potatoes, and poorest when fed on sugar beets. He thought the Massachusetts Board of Agriculture could not do a better thing than to direct attention to experiments as to the relative value of different kinds of root crops as feed for cattle.

Mr. WILLIAMS, of Hadley, spoke of the difficulty in raising roots on the Connecticut river valley, for the reason that the soil becomes weedy from cultivation, and consequently there is more labor required to cultivate roots than corn. He had experimented some in the cultivation of potatoes. The disease has affected them considerably sometimes. When planted on a dry, alluvial soil, without any manure placed in the hill, they decayed much less. He had found great advantage in taking the seed from a distance. On one occasion he procured some Carter potatoes from a hill town twenty miles distant from his own farm. They were quite small, and he hesitated about planting them. But he obtained a very fine crop of excellent potatoes from that seed, while from large ones of the same kind raised on his own farm, he did not obtain more than two-thirds as many, from the same quantity of land.

Mr. LOVERING spoke with reference to the necessity for changing potatoes, in answer to the remarks of Mr. WILLIAMS, stating that he had cultivated one variety which he knew had grown on his farm for thirty-five years, and he had no doubt he obtained as good ones from them last year as were ever raised anywhere.

Mr. DODGE, of Sutton, spoke of the difficulty from weeds among root crops, and said that he had killed the weed seed in the manure by putting salt into the manure.

Mr. BUCKMINSTER advocated the planting of small potatoes, of about the size of hen's eggs, or even smaller, if sound. If they are equally good, there is an advantage in using them, because more plants can be obtained from a bushel. He knew a gentleman by the name of BLANCHARD, of Wilmington, who had tried planting small potatoes six years, and the last year the crop was quite as good as that of any previous year. He was glad that the cultivation of a variety of root crops was gaining favor. Carrots are worth $12 per ton in Essex county. One gentleman in Worcester county raised one hundred and forty tons, which he sold for from $10 to $12 a ton. In this connection, he spoke of the value of sweet apples, which he thought very beneficial for stock.

Gen. TOWNE said he had cultivated small potatoes six years, and he considered them decidedly better than large ones. He would also feed sour apples to stock, if sweet ones were not to be had.

Dr. FISHER, of Fitchburg, stated that a gentleman in his town had planted small potatoes between twenty and thirty years, and he found them as good as large ones.

THOROUGH PULVERIZATION OF THE SOIL.

"THE finer land is made by tillage, the richer will it become, and the more plants it will maintain. It has been observed that when part of a ground has been better tilled than the rest, and the whole ground constantly managed alike afterwards for six or seven years successively, this part that was but once better tilled, always produced a better crop than the rest, and the difference remained very visible every harvest."

So wrote JETHRO TULL. To a certain extent experience has fully proved the truth of this assertion. On heavy, clay soil, abounding in all the elements of plants, but which were locked up in an unassimalable condition, thorough tillage, by admitting the air and light into the soil, and thus favoring the disintegration of the inorganic and the decomposition of the organic matter of the soil, has in innumerable instances, rendered the soil exceedingly productive for several years. But on light soils, which contain a far less proportion of those substances which form the food of plants, and which are naturally less impervious to air and light, no such results are obtained. Good tillage is necessary on all soils, but tillage *alone* will not enable the farmer of light sandy land to obtain large crops for but a few years, at the longest. Tillage renders available the food of plants lying in an insoluble condition in the soil; but if this food of plants is not in the soil, no amount of mechanical or chemical action can render such soils fertile.

It is true, however, that few soils are so sterile—so exhausted of those elements which constitute the food of plants—that they cannot be made to produce a crop by means of draining, good plowing, harrowing, rolling, &c.; and if the right crops are grown and consumed on the farm by animals, and the manure carefully husbanded and returned to the soil, the farm may be made richer every year, and be soon in a condition to produce large crops of the valuable cereals.

What we would advocate therefore, is underdraining and thorough tillage and pulverization of the soil on heavy land, which will in this way be able to retain all the ammonia brought to it by rain; and on light sandy soils—which do not possess this property of retaining ammonia—the more extensive growth of those crops which have the power of organizing all the ammonia brought to them by the rain, air, &c. In other words, while summer fallows are useful and perhaps necessary on clay farms, they should not be adopted on light land farms, but in their place, clover, peas, beans, turnips, and other fallow crops should be grown.

EXHAUSTION OF THE SOIL.

There is on an average, about one fourth of a pound of potash to every one hundred pounds of soil, and about one eighth of a pound of phosphoric acid, and one sixteenth of a pound of sulphuric acid. If the potatoes and the tops are continually removed from the soil, it will soon exhaust the potash; if the wheat and straw are removed, it will soon exhaust the phosphate of lime; if corn and the stalks, it will soon exhaust the sulphuric acid. Unless their is a rotation, or the material that the plant requires, is supplied from abroad, your crops will soon run out, though the soil may continue rich for other plants.—*Ag. Exchange.*

REMARKS.—An acre of soil twelve inches deep would weigh, say 1,600 tons. According to the above figures, it would contain 8,000 lbs. of potash, 4,000 lbs. of phosphoric acid, and 2,000 lbs. sulphuric acid.

Estimating that potatoes contain 20 per cent. of dry matter, and that 4 per cent. of this is ash, and that half of the ash is potash, we only remove in a crop of 250 bushels, 60 lbs. of potash. Say that the tops contain 20 lbs. more, and we have potash enough in an acre of soil to produce a crop of 250 bushels of potatoes, each year for a century!

A crop of wheat of 30 bushels per acre, contains about 26 lbs. of ash, and half of this say, is phosphoric acid. Allowing that the straw, chaff, &c., contain 7 lbs. more, we remove from the soil in a crop of wheat of 30 bushels per acre, 20 lbs. of phosphoric acid. According to the above estimate, then, an acre of soil contains sufficient phosphoric acid to produce annually a crop of wheat and straw of 30 bushels per acre *for two hundred years!*

We will pursue the calculation no further. The writer of the paragraph quoted above, selected out the crops and elements best suited for his purpose; but it will be seen that even according to his own estimate there is sufficient potash and phosphoric acid in the soil to give the present wicked generation all the potatoes and wheat they may need.

But let us take another view of the subject. No intelligent farmer removes all the potatoes *and tops*, all the wheat, straw and chaff, and all the corn, stalks &c., from his farm. According to Dr. Salisbury, a crop of corn of 75 bushels per acre removes from the soil 600 lbs. of mineral matter; but the grain contains only 46 lbs. The remaining 554 lbs. is contained in the stalks, leaves, sheaths, husks, &c., all of which are generally retained on the farm. It follows from this that, when only the grain is sold off the farm, it takes more than 13 crops to remove as much mineral matter from the soil as is contained in the whole of one crop. Again, the ash of the grain contains less than 3 per cent of sulphuric acid, so that the 46 lbs. of ash in 75 bushels of corn contains less than a pound and a half of sulphuric acid, and, thus, if as is estimated, an acre of soil contains 2,000 lbs. of sulphuric acid, we have sufficient for an annual crop of 75 bushels per acre for fifteen hundred years!

Intelligent wheat growers seldom sell their straw, or chaff, and frequently consume on the farm nearly as much bran, shorts, &c., as is sent to market with the grain. In the Natural History of New York, part V., it is stated that a crop of wheat, in Western New York, of thirty bushel per acre, including straw, chaff, &c., removes from the soil 144 lbs. of mineral matter. Genesee wheat usually yields about 80 per cent of flour. This flour contains only 0.7 per cent of mineral matter, while fine middlings contain 4 per cent. Coarse middlings, 5½; shorts, 8; and bran, 8½ per cent. It follows from this that, out of the 144 lbs. of mineral matter in the crop of wheat, less than 10 lbs. is contained in the flour. The remaining 134 lbs. is found in the straw, chaff, bran, shorts, &c. Even, however, if none of the shorts is returned to the farm, the 30 bushels of grain remove from the soil only 26 lbs. of mineral matter; and it would take more than five crops to remove as much mineral matter as one crop contains. Allowing that half the ash of wheat is phosphoric acid, 30 bushels remove only 13 lbs. from the soil, and if the soil contains 4,000 lbs. it will take 307 crops of 30 bushels each to exhaust it.

We commend these facts to the consideration of the writer of the paragraph we have quoted. If his estimates are correct; if the soil contains as much potash, phosphoric acid and sulphur as he states, we need have few fears of waking up some morning to find all the precious elements of crops departed from our soils for ever.

We would just observe that the idea, embodied in the latter part of the paragraph, has no foundation in fact. If a soil is exhausted of potash, or of posphoric acid, it will not "continue rich for other crops." Not a plant that we commonly cultivate, can grow upon soil destitute of *any* of the mineral elements of plants.

HOW TO PROTECT GROWING CORN.—A correspondent of the *Granite Farmer* gives some capital advice as to how to make the seed corn come up—how to make the plant grow—how to keep the hens from scratching up the seed—how to prevent the crows from pulling up the plant. Hear what the *Farmer* says:—

"The most sure way to have the seed 'come up,' and do well, is first to manure and prepare the ground well—plant good seed, clean as it came from the cob. This never fails with me; all variations from this have failed under different circumstances.

"*To prevent the seed from being destroyed by the hens.*—The pig with a full belly, will never root around; the hen with a full crop, will not scratch the ground. Therefore—when my hens are disposed to scratch, I call them to the barn, and give them as much corn as they will eat, for which they always sing to me a merry tune; and lay a whole hat full of eggs.

"*To prevent crows from pulling corn.*—I scatter corn in the field broadcast, which they feed upon and leave the seed. If I have too much company by my liberality, I soak the corn in strichnia and hot water. Last spring, after scattering half a bushel of corn soaked in this way, I picked up forty-two dead crows, and how many more went off feeling 'kind o' sick,' I am not able to state.

"*Wire and grub worms* are more difficult to deal with—for any poison used for their destruction, is always absorbed by the soil, which is a sure protection to them. I have never found a sure remedy for these pests; and can only secure my seed by planting enough for their wants and mine too, and if they get more than their share, I plant new hills a few inches from the old ones thus destroyed, and 'thin out' at second hoeing."

UNDERDRAINING IN FRANCE.—The Emperor of the French has recently recommended *twenty millions of dollars* for the encouragement of underdrainage—an art which is as much neglected in France as in this country.

IRRIGATING WITH THE DRAINAGE OF THE BARN YARD.

At a recent agricultural discussion in London, Mr. W. BENNETT of Cambridge (Eng.) said:

"As to irrigations of this description, he would rather his friend Mr. Mechi should have recourse to them than himself, for he had derived so little benefit from irrigation by liquid manures in the long run, that he believed he might put in his eye and see none the worse for it all the good it had ever effected (Hear, and laughter). He would infinitely prefer using his liquid manure, mixed in compost heaps, to carrying it in its liquid state on the land."

We are well acquainted with Mr. BENNETT, and know him to be one of the best and most experienced farmers in England, and his opinion is entitled to consideration. At the same time, we must say, that we have seen the liquid drainage of the barn-yard applied to grass land in considerable quantity, with decidedly beneficial results. We have in our mind a six acre meadow in Shropshire, England, where the drainage of a barn-yard, in which some forty head of cattle, and nine horses, &c., were kept, had been applied for upwards of twenty years, and from which immense crops of grass were obtained two or three times every year. The owner of the meadow was an intelligent practical farmer, who certainly would not have continued the practice for so many years, had he not found it profitable. The water was run on to the land in artificial conduits which formed a complete net-work all over the field. We must add, however—and it is a fact worth remembering, and which may serve to reconcile the conflictive testimony of these practical English farmers—that it was thought desirable to render the drainage as dilute as possible, all the fresh water that could be obtained, being turned into the tank. We are fully persuaded that there are hundreds of our readers, whose barn-yards are so situated that, at trifling expense, a small stream might be dammed up and turned so as to run into the tank or pond containing the drainage of the barn-yard, and then conducted on to a meadow where it could be distributed by means of small drains, and which could be made to overflow at any point desired.

Mr. BENNETT throws out an idea which is worth reflecting on. "He would infinitely prefer using his liquid manure, mixed in composts heaps, &c." Is there any necessity for allowing any of the drainage of the barn-yard to run to waste, even if it is not used for irrigating purposes? Can we not by means of a large tank, retain all the surplus water in wet weather to be pumped back on to the manure when it is dry enough to absorb it? In England, where, in proportion to the grain, as much again straw is produced as in the drier climate of America, we are well satisfied that with properly arranged buildings, this can be done; and here we would say, that when we visited Mr. BENNETT's celebrated farm in Bedfordshire—a farm which when it came into his possession would hardly "sprout oats," but which by the cultivation of turnips and other leguminous plants, and by keeping a large flock of sheep, and feeding them with American oilcake, he raised in a few years to the highest state of fertility—among all the interesting things we saw, none pleased us more than his range of low, stone buildings enclosing an open yard. With such a farm steading, from which all the eaves droppings were carried off and not allowed to run on to the manure, we can easily believe that little difficulty would be experienced in absorbing all the liquid manures in compost heaps or with the manure itself. How far this can be done on American farms, we leave our readers to determine. We should be glad if they would discuss this subject through the pages of the *Genesee Farmer*.

CAN THE HAND HOE BE DISPENSED WITH IN CULTIVATING INDIAN CORN?

WE think it can. At all events, much more of the labor of cultivating can be done by horses instead of men. The great difficulty in cultivating corn is, that farmers do not begin to destroy the weeds early enough. Mr. DAVIDSON, of Greece, in this county, *harrows his corn field* as soon as the rows of corn are visible. In a few days he harrows it again in an opposite direction. The harrows pull up none of the corn. They cover up some of the hills occasionally, but a boy with a hoe can easily keep up with the harrow and remove the soil from off them.

In a few days after the two harrowings, horse hoe *both ways* between the rows. When the corn is sufficiently advanced, run a shovel plow *both ways* between the rows, throwing up a little soil to the hills. This completes the cultivation, unless there are any weeds close against the corn in the hill. A man with a hand hoe would cut out these from several acres in a day, if the other operations have been skillfully performed.

We were once passing Mr. DAVIDSON's farm, and were struck with the cleanliness and luxurious growth of the corn, and on inquiry we found that "a hoe had not been in the field since the corn was planted." A cleaner field of corn we never saw. On the opposite side of the road, a field of corn cultivated in the ordinary way, at twice the expense of Mr. DAVIDSON's, was not half so good, while the soil was the same, and the previous treatment much better.

It is proper to state that Mr. D. used a compost made by mixing the droppings of the poultry house with unleached wood ashes and plaster, applying a little to each hill at the time of planting. He thinks this the best fertilizer that can be used for corn. The hen droppings are dry, and consequently do not evolve any ammonia till they are mixed with the soil. It is important that they should be dry, or otherwise the ashes would set free the ammonia.

We have cited the practice of Mr. DAVIDSON simply because it came under our own observation. We have no doubt that there are many farmers in this vicinity who use the horse hoe instead of the hand hoe in cultivating corn. We should be glad to have the matter discussed in our columns.

CHANGE OF SOIL.—JETHRO TULL says: "Common barley, sown once in the burning sand at Patney, Wiltshire, will, for many years after, if sown in indifferent warm ground, be ripe two or three weeks earlier than any other which has never been impregnated at Patney; but if sown a degree farther north, on cold, clayey land, will in two or three years lose this quality, and become as late ripe as any other. The grains of vegetables are their eggs, and the plants proceeding from them have their virtues and their diseases also; while weeds and their seeds in the fields where they grow naturally, reach perfection without change of soil."

FRAUDS IN ARTIFICIAL MANURES.

To those unacquainted with the subject, the extent to which farmers are defrauded in the purchase of artificial manures is past all belief. Cautious JOHN BULL has been victimized most cruelly. He has purchased Peruvian guano that was half sand, superphosphate of lime that was little else than plaster and the useless refuse of chemical works, "Economical Manure" at eight pounds sterling per ton that was not worth as many shillings, "poudrette" that was half street scrapings and half coal ashes. In this country similar frauds have been practiced, and we have done our share in exposing the nefarious practices of these meanest of all scoundrels. As a general rule, farmers in this country are reading men, and, with one or two exceptions, the agricultural press is conducted by those who are willing to expose all such attempts to rob the farmer of his hard earned money. Still, there is at the present time an extensive trade carried on in fraudulent manures. We see that a respectable house in Boston still advertises "Chilian guano" for sale at $40 per ton, notwithstanding that we have shown that this article, which is said to come from the coast of Chili, and to be "superior to the best Peruvian," is manufactured on a celebrated farm near Newark, N. J., and is a worthless compound! A large trade is done in "Nitrogenized superphosphate of lime," which is said to be manufactured from bones, and "*dried blood*, from Texas," but which we have good reason to *know* is made from the refuse scum of the New York sugar refineries! The proprietor of a large factory where marble slabs are sawed, informed us that the *marble dust* is purchased by dealers in plaster and other manures, in New York, for purposes which *he* cannot ascertain!

We are led to these remarks by an article in the last *Journal of the Highland Agricultural Society of Scotland*, by Prof. ANDERSON. He analyzed two manures purporting to be made from sewerage water, with the following results:

	I.	II.
Water,	18.04	4.03
Organic matter,	19.71	30.13
Phosphoric acid,	2.03	0.60
Peroxide of iron and alumina,	6.93	7.10
Sulphate of lime,	27.05	3.14
Carbonate of lime,	6.43	3.70
Alkaline salts,	3.00	
Sand,	16.81	51.13
Ammonia,	1.13	0.64

"These substances," he observes, "are of very trifling value. The first, which is the best of the two, and contains 2 per cent. of phosphoric acid and 1 of ammonia, when calculated according to the method used for determining the price of a specimen of guano, proves to be worth only about 16 shillings ($4) per ton; and the second does not exceed 7 shillings. *And yet these and similar substances are gravely declared to be equal in value to guano!*"

DRAINING OF THE HARLEM SEA.—The Chairman of the Commission on the draining of the Harlem Sea in Holland has published a final report on this work, which is to be finished this year. The expenses from 1839 to 1855, inclusive, are $3,400,000, and the receipts from land to be sold is $3,200,000. It was at first supposed the reclaimed land would be worth only some $32 per acre, but in 1853 it was actually sold for over $120. Forty-five thousand acres in all have been reclaimed from the sea, which will supply 100,000 people, bountifully, with the means of life.

NOTES FOR THE MONTH, BY S. W.

Methinks our State Society might be absolved from the suspicion of desiring to excite any man's cupidity, when the Board declared a $75 premium for those nineteen distinct and varied experiments in the manurial treatment of Indian Corn, on the same number of quarter of an acre plots.

Will the $75 pay for the amendments required by their programme; or, will the two plats, No. 1 and No. 19, which are to remain unmanured, pay for their culture; and how much of a crop on such poor land may be expected from the single application of 25 lbs. of Epsom salts on No. 9, or that of 50 lbs. of Gypsum on No. 10?

If these important experiments are made with that exact attention, care, and patience, which alone can make them reliable, they will cost much time and money, and must be extended through consecutive seasons, and that amateur who assumes the task must be too rich, both in purse and in feeling, to need or desire such a premium. Liebig tells us that his experiments on a ten acre plat cost him $3,200 more than he realized from the products of the whole plat in four years. At Rothhamstead, the single experiment of ascertaining the especial manurial requirements of the wheat plant, cost many thousands of dollars, and many reiterated, varied, and consecutive yearly experiments.

It is equally important to the interests of our great agriculture, that we should also set ourselves to the task of ascertaining the chemical requirements of our still more important cereal, Indian Corn; the more especially as it is so much quicker, more easily and abundantly grown than wheat in this its indigenous soil and climate. But such an undertaking belongs properly to an endowed Agricultural School or College, and such a one we have now finally secured to us by a Legislative Charter and endowment, to which is to be added individual subscriptions already made to the amount of thirty thousand dollars, principally by the farmers and villagers of our southern towns—men who are as public spirited, as they are wealthy, intelligent, and every way worthy of their great calling and fair heritage in this all fertile and beautifully picturesque little County of Seneca.

The location of this College and Experimental Farm is now about being made near the dividing ridge between the two lakes in Ovid; perhaps adjoining the poetic little village of that name, which looks down upon the expanded waters of the one lake, while it looks over the broad but lower surface of the other.

It is not by one year's experiments, however varied they may be, that we are to learn the precise manurial requirements of Indian Corn. But we already know, from observation and experiments, that corn requires a more carbonaceous soil than wheat—herein, the corn plant finds a full supply of that nascent carbonic acid and ammonia throughout the hot season, and during its most rapid progress to maturity.

What a pity that HORACE GREELEY had not made known last fall his very tempting premium of $50, for the best acre of corn grown by a boy of eighteen years, as no man or boy can prepare a heavy loam for corn without plowing or trenching in stable dung deeply in the fall. A previously well-treated calcareous clay, thus furrowed in the fall or winter, will be as mellow as ashes in the spring; whereas, if

spring plowed, no harrow or drag roller can reduce the lumps to a fine tilth, even if more than half sand and vegetable matter. That boy who has an acre of well-dressed creek or river bottom, now stands the best chance for the premium, as there nature has made a soil of varied but rich deposits, much less tenacious, when spring plowed, than heavy upland soils; but, even on such a soil, unwashed stable manure or Peruvian guano will add to the crop. The waste of manure from a loose or sandy soil is so rapid during the droughts of summer, that a maximum crop favors the aluminous formation, except in such a cool, wet summer as our last.

In the hot summer of drouth, 1855, when every farmer's corn rolled its leaves for weeks together, the leaves of my clayey corn patch scarcely curled during the heat of the hottest day; but long stable dung had been trenched in eighteen inches deep the fall before. Had the basis of the soil been sand, the buried manure would have been exhausted by the plants or evaporated into the air before the drouth was over, and the corn must consequently have suffered for both food and moisture; but in a cool, wet season the decomposition and waste of manure in a sandy or gravely loam is much retarded.

It is now well ascertained by the Rothamstead experiments, corroborated by those of the lamented PUSEY and others, that the specific manure for wheat is nitrogen, in its compounds of ammonia or nitric acid; but we have yet to learn from well instituted experiments, the special requirements of Indian Corn, and, also, whether carbon in the soil is necessary to furnish that rapidly growing plant with the extra carbonic acid necessary for its fast structure, or only as an absorbent to keep the soil loose and friable, and retentive of moisture, to feed the roots of the plants.

But *apropos* of that $50 GREELEY premium. Plant in drills 3½ feet apart, 9 inches apart in the drill if suckered, or one foot apart if the suckers are uncut. If in hills, plant equi-distant 3 or 3½ feet apart, 3 to 4 plants in the hill, standing two or three inches from each other; removing the suckers will cause the ear to fill better, and ripen ten days earlier, and corn in hills may then stand only three feet apart—local culture and frequent light dressings is best. As the early Dent Ohio Corn has no suckers, it does well on a strong soil in hills three feet each way. JOSEPH WRIGHT, of this village, grew 170 bushels of ears to the acre of this noble corn, in the dry, hot summer of 1854. But the Dutton, or long eared eight-rowed, is more certain for all seasons in our climate. S. W.—*Waterloo, N. Y.*

NAPOLEON THE THIRD AS A MODEL FARMER.—"The Emperor," says the *Echo Agricole*, "has, it is affirmed, just purchased the old demesne of Fouilleuse, situated between St. Cloud and Mount Valerien. The intention of his majesty is to establish on this ground a large model-farm, on which will be collected the most improved agricultural implements and the best breeds of animals of every kind. This excellent idea has been carried into practice by several Sovereigns, particularly in Wurtemburg and in England. The old estate of Fouilleuse was for twenty years used as a beet-root sugar manufactory, but was afterwards sold and divided. The Emperor has united the principle parts of it, and, by means of communications which will be formed, this agricultural demesne will become an appendage of St. Cloud."

CULTIVATION OF RUTA BAGAS AND TURNIPS.

MUCH has already been written and published on raising the various root crops. Their value for farm stock cannot be questioned. It is true economy for every farmer to raise an acre or two of ruta bagas and turnips if he expects to winter cattle or sheep.—Sheep will winter well on straw if fed a few turnips twice a day, and cattle, if fed a bushel per day. Each will look much better in the spring than if fed on hay alone.

Ruta bagas should be sown from the first to the fifteenth of June, on a well-prepared soil, in drills or on ridges about two feet apart. A black, mucky soil is best adapted to their growth in this country; but they will succeed well on other soils, if made rich. If sown on ridges, they should be levelled a little, and the seed sown and soaked in; or sow with a drill on a level surface.

The plants will make their appearance in three or four days, usually, and if they escape the fly, they will soon need thinning—which should be done while very small. If the ground is rich they will grow very large and should not stand nearer together than six inches; they will then cover the ground both ways. The first time through the rows, use a cultivator, and the last a double mould-board plow. Keep them clean, and the work is done till harvest. The cost of raising them, if a good crop and well tended, will not exceed three cents per bushel, including all expenses.

My method of harvesting is to pull them and lay two rows together. Then take a spade and clip off the tops; after which, load them in the wagon and haul to the cellar for winter use.

Turnips can be raised on almost every variety of soil—the best being new land, black muck, loam and sand. I used to think that they would not grow well on old land, but experience has taught me better.

They may be sown from the first of July to the fifteenth of August, and after early potatoes, wheat, barley, or oats and peas. I have succeeded well sowing as above mentioned. If sown on old land, after other crops, it should be in a good state of cultivation or a large crop cannot be expected. I think the very best time to sow is from the 20th of July to the 5th of August. If sown after grain, the ground should be plowed and thoroughly harrowed as soon as the grain is harvested, to let the grain and weeds have a chance to grow. After a few days cultivate thoroughly, to pulverize the soil and kill the weeds, and the ground is ready for the seed, which may be sown broad cast and harrowed in. If the ground is very dry, it should be rolled. After the plants have attained a sufficient size they should be thinned and hoed once, and that will complete the work till harvest. If the ground is clean and not too thickly sown, a good crop can be raised without hoeing.—The best variety is the early white stubble, sown at the rate of two lbs. per acre.

The cost of raising a good crop will not exceed two cents per bushel. I have sold them as low as eight dollars a hundred and made a good profit. The tops make good feed for cows and young cattle, which are very fond of them, and may be kept till hard freezing weather if left in small heaps, to prevent them from heating. I know of no better way of harvesting than to pull them and lay in rows with the tops all one way, and top them with a knife.—E. S. H.—*Rochester, May 15th.*

CULTIVATION OF KENTUCKY BLUE GRASS.

Cassius M. Clay, Esq., of Bourbon county, Ky., furnishes the *Ohio Farmer* the following excellent article on the celebrated Kentucky blue grass:

"The 'Blue Grass,' (*Poa pratensis,*) and known in England, I believe, as 'Spear Grass,' and 'Greensward,' which is so remarkable a production in Kentucky, is not indigenous, but has been imported accidentally, or by design. In our climate and soil it is not only the most beautiful of grasses, but the most valuable of crops. It is the first deciduous plant which puts forth its leaves here; ripens its seed about the first of June, and then remains green, if the summer is favorable in moisture, during the summer months, growing slowly till about the last of August, when it takes a second vigorous growth until the ground is frozen by winter's cold. If the summer is dry it dries up utterly, and will burn if set on fire; but even then, if the spring growth has been left upon the ground, it is very nutritious to all grazing stock, and especially to sheep and cattle, and all ruminating animals. When left to have all its fall growth, it makes fine winter pasture for all kinds of grazing animals. Cattle will not seek it thro' the snow; but sheep, mules and horses will paw off the snow, and get plenty without any other food. When covered with snow, cattle require some other feeding; otherwise they do well all winter upon it.

"It also makes the best of hay.' I have used it for that for twenty years. It should be cut just as the seed *begins* to ripen, (as all other hay,) well spread, and protected from the dew at night by windrowing or cocking; the second evening stacked with salt, or sheltered with salt also. When properly cured, stock seem greatly to prefer it to all other hay. I would not recommend it for meadow especially, however, because the yield is hardly equal to timothy and clover, and because it is more difficult to cut and cure.

"Climate and Soil.—The blue grass does not flourish well south of this State; and as low down as Mississippi utterly fails. I am of the impression that it will do well as far north as Cleveland, and even in parts of Canada; and between the same isothermal lines. It delights in limestone soils, but will grow in any rich loamy soil; it does not do so well in clayey soils, and I would not recommend it at all in very sandy soils. Although even there, it might shelter railway embankments, if not grazed or too much trod upon. It has very fine, numerous and long roots, and holds the soil against washing, better than any grass known here; and will 'eat out' all others, if allowed.

"Seed and Culture.—The seeds are very small and enclosed in the pods of the grass stem; when shattered out from the straw, they are then again enclosed in a rough husk. When rubbed heavily between the hands the pure seed exhibits itself, smaller than mustard, elongated, irregular, and semi-transparent. The seed is easily injured, and many fail for the want of good seed. When stripped they are generally taken too green; and when rotted and threshed out, and put in bulk, very liable to be heated and spoiled. The seed even when very ripe, is very difficult to separate from the straw. I would therefore recommend to cut the grass when the seed is quite ripe, and then cut the straw, or the richest heads of it, with an ordinary straw-cutter, and then spread it on some airy floor till sown. This is the cheapest mode, and the safest for good seed. When the seeds are good, if thrown upon fire coals, they will produce sharp crackling sounds, a faint imitation of exploded powder grains. If the seeds are unripe, or have lost their vitality, they burn with little noise. But after all, it would perhaps require an experienced ear thus to test them; and I know of no other, except that the best seed, when hulled out, are the plumpest, and most transparent or waxen colored.

"Preparation of Ground.—If intended for ornamental grounds, the land should be thoroughly plowed and harrowed, then sowed and rolled. The earlier the seed is put into the ground after the frost is out, the better. As the young plant is very delicate, it is better to shelter it by sowing about half a crop of oats, or spring wheat; or it will do very well to sow it upon winter wheat, provided there has been room allowed; as too much shade will kill it the first year, as well as too much sun, unless the season be very wet, when it grows well without any shelter. It should neither be cut nor pastured the first year, as it will not be worth cutting, and pasturing pulls it up by the roots, and otherwise injures it by treading. If sown with grain, hogs may be allowed to eat down the grain, but no other stock, as the hogs don't care to graze upon it at that stage of development, and prefer the grain. The second or third year it is very good grazing, even for hogs.

"Sowing and Quantity of Seed.—If the seed is clean, a bushel (by measure,) sows very well with grain or other seeds, from eight to ten acres. Lay the ground off as for sowing oats; then take as many seeds as you can hold between the thumb and two fingers, and cast it broadcast, as oats, moving with about the same gait, but perhaps making rather more casts.

"If the seed are sown in the 'stript' state, or cut up in a box, grasp a handful as if sowing wheat, and make about three quick casts with one handful, as the seed do not easily separate as oats or wheat. If the ground is intended for pasturage, it is best to sow clover or timothy seed with it, an equal measure of each, because the clover and timothy make a quicker bite for stock, and if not too hardly grazed, will last with it for many years; thus giving variety, and perhaps more food, as clover and timothy may use some elements of the soil which blue grass does not feed upon; and because, also, variety is best for all animals. It is all important to never allow grass to be grazed too cleanly, but to keep the *ground covered;* thus retaining moisture, protecting the roots against cold and heat, and retaining ammonia and other elements from the air. Grazing grass *short,* is like eating the young of animals —bad economy."

Experiments on Oats.—At a recent meeting of the Prince George Hole and Corner Club, (Va.) John Batte gave the result of some of his experiments on oats. The experiments were made on a spring fallow after oats, and seeded the 13th of March, and cut the 4th of July. Each plot of land contained on quarter acre. The results were as follows:

No. 1. ¼ acre, 8½ lbs. seed, 50 lbs. superphosphate; from which I reaped 176 lbs. of oats—say 22 bushels per acre.

No. 2. ¼ acre, 8½ lbs. seed, 50 lbs. Peruvian guano; from which I reaped 389 lbs. of oats—say 48¾ bushels per acre.

No. 3. ¼ acre, 8½ lbs. of seed, 25 lbs. guano; from which I reaped 256 lbs.—say 32 bushels per acre.

No. 4. ¼ acre, 5½ lbs. of seed, 25 lbs. guano; from which I reaped 275 lbs.—say 34½ bushels per acre.

Mr. Batte adds: "I applied superphosphate to my whole crop, but with no better result than appears in the experiment. This is the only crop upon which I have ever used this fertilizer, except in a small way, upon ruta baga turnips, where I believe it will pay very handsomely."

Difficulties dissolve before a cheerful spirit, like snow drifts before the sun.

PLOWING UNDER CLOVER, WEEDS, &c.

In plowing under a heavy crop of grass, weeds, &c., it is sometimes difficult to bury them completely. Everybody has seen a log chain fastened to the beam of the plow to assist in the operation,—and a material assistance it is. A few years ago, when on the farm of WILLIAM BENNETT, Esq., in Bedfordshire, England, he was plowing up a clover sod, for wheat, at one furrow. The clover was four or five inches high, and he had attached to the plow (one of HOWARD'S celebrated Prize Plows), a contrivance which was new to us, and which enabled the plowman to turn under the clover in a most complete manner. Not a trace of it could be seen. It consisted of a small ball of iron, a little larger than a hen's egg, attached to the beam by a strong chain, and to the handles of the plow by a light one. The length of chains were so adjusted that the ball would hang against the back part of the mould board. When plowing, the furrow slice pressed gently against the ball, and kept the chain attached to the beam sufficiently tight to enable it to press down all the clover, weeds, &c., as the furrow was turning over. We have never seen it used in this country, and no where else in England, where plowing under green crops is not so extensively practiced as formerly. A correspondent of the *American Farmer* gives a description of a similar contrivance, which any one can make in a few minutes:

"Saw off a block from some hard, durable and heavy wood, say about 10 inches long, and three and a half or four inches in diameter, then take a piece of trace chain, about three feet long, confine one end to the block by driving a small staple in the end, having first passed the staple through an end link of the chain. Point the other end of the block, and attach a larger chain in the same manner to that. Tie the short chain (attached to the square end of the block), to the rod which passes through the mould board and beam of the plow, by wrapping it around the beam at that place; drop the block in the bottom of the furrow which has been already opened, (of course on the mould board side), draw up the long chain and attach that to the clevis pin or clevis. Be sure that you have both chains just tight enough to permit the block to lie in the furrow; allow no slack. The short chain gathers the clover, weeds, &c., and bends them down. The weight of the block prevents the chain from rising, and the plow laps the dirt over the weeds, whilst they are in a recumbent position. I am this day turning under weeds as high as the heads of the plowmen, who are almost wholly concealed."

ROLLING LAND AFTER CORN PLANTING.

A correspondent of the *Prairie Farmer* is an earnest advocate for rolling corn land. We commend his remarks to the consideration of our readers, and should be glad of their experience on the point:

"Rolling land after corn planting will pay as well as good plowing or harrowing. Indeed, the time spent in rolling down a field pays better than in almost any other way, while preparing for a crop. Many farmers who have dropped their seed upon the hot, dry surface, and covered it with earth more resembling ashes than anything else, last spring, had they rolled their fields afterwards, would have seen nice long rows of sprouting corn about the time they were planting over. There are two reasons why rolling produces moisture in dry seasons. One is, that the earth being made firmer, conducts the moisture from the subsoil more readily, and another is, that the ground being made perfectly level, there is little more than half the surface presented to the action of the wind or sun, or from which evaporation takes place.

"Another great advantage in rolling land, is the ease with which the land is afterwards cultivated. Crushing down the hills and filling up the hollows, it leaves the ground in such a condition that the cultivator may be started almost as soon as the corn begins to 'peep,' as there is little danger of rolling heavy lumps of coarse stun upon the young blades.

"In this respect a roller is of as much advantage in wet weather as in dry. A roller can, and in my opinion, ought to be used on corn ground in any kind of a season. It is a cheap implement, and can be made with a scraper behind, to clean it every revolution, in wet weather. A boy can drive the team and follow a man with the two row hand-planter. I can show any person who wishes, two fields of corn nearly separated by a fence, planted on the same kind of land, at the same time, and out of the same kind of seed. One has been rolled down and the other has not, and the rolled corn is a foot the highest."

AGRICULTURAL PREMIUMS.

We have often urged upon our Agricultural Societies the importance of offering Premiums not only for the best cattle and crops, but also for the developement and exposition of the *principles* of breeding and fattening cattle and the laws which govern the growth of crops and the elaboration of grain, &c.—Prof. NORTH, in his address delivered before the Oneida Co. Agricultural Society, eloquently advocates the same course. We give the following extract:

It is to be hoped that the day is not distant when our agricultural societies will be so reformed that premiums shall be paid for imperishable ideas, as well as for perishable crops. A good yield of corn is less worthy of a prize than a good treatise on the best way to raise corn. Pay twenty dollars for a premium on the best orchard in the the country, and only one man is encouraged by it. Pay twenty dollars for a treatise on the best method of managing apple trees, and the whole world of fruit-growers gets a benefit. There are precious volumes of agricultural knowledge hived away in the memories of farmers that never comes before the public, simply because it is never invited.—Many a successful cultivator of the soil has died, making no sign, who might have bequeathed to society a legacy of valuable information. In place of offering the farmer five dollars for driving his pet Durham cow to the fair, offer him double the money if he will bring also his budget of experience in the dairy business. Society will be thereby a gainer, and the dignity of rural pursuits will be fittingly vindicated.

OIL YOUR HOE HANDLES, &c.—As the season has arrived in which farmers have all their implements in use, it may be well to remind them that the weather has a very destructive influence on wood. All implements *should* have been newly painted before taking out, after having been well housed during the winter. A simple dressing of linseed oil is a great saving, and such articles as rakes, hoes, &c., that are not commonly painted, should certainly be rubbed over with linseed oil. It will increase their durabiiity, and give them a smoothness which no wear can impart without it. During the summer, I frequently take my rakes, (while in use,) hoes, spades, and even axes, and oil the wood thoroughly, and I believe I lose nothing by so doing. D.—*Gates.*

PAINT FOR BARNS AND HOUSES.

The following paint mixtures are given in Wheeler's new and useful work entitled "Homes for the People," from which some valuable hints may be derived in forming desirable tints:

A cool grey, similar to what would be the tint of unpainted timber after a few years, may be obtained as follows:

Indian Red, half a pound;
Lampblack, three ounces;
Raw Umber, half a pound, mixed with 100 pounds of White Lead.

This color will be changed by the addition of sand, which in all cases is recommended, in a proportion of about one quart to every one hundred pounds of mixed color. The finest and whitest sand that the neighborhood affords should be used, and as its hue differs, so will the tint of the paint be changed.

This color, with one-third less white, is very suitable for roofs, and is a cool, unreflecting gray tint of great softness and beauty.

Cream Color, No. 1.—A soft, pleasant tint, like that of coffee greatly diluted with milk, is oftentimes well adapted to a building, particularly in regions where red sandstone or other similar objects with such local coloring give a brown hue to portions of the landscape. It may be mixed as follows:

Yellow Ochre, five pounds;
Burnt Umber, half a pound;
Indian Red, quarter of a pound;
Chrome Yellow, No. 1, half a pound, with 100 lbs. of White Lead.

The key notes in this color are the Indian Red and the Chrome Yellow, and the tone may be brightened or lowered by more or less of either, as the individual taste may prefer.

No. 2.—A still more delicate tint, resembling the pure color of the Caen stone, and well adapted for a large building with many beaks of outlines, may be mixed thus:

Yellow Ochre, two pounds;
Vandyke Brown, quarter of a pound;
Indian Red, quarter of a pound;
Chrome Yellow, No. 1, half a pound to every 100 lbs. of Lead.

SUPPORTS FOR LIGHTNING RODS.

Nearly all the directions that occasionally appear for the erection of lightning rods, require that a glass insulating-ring be placed around the rod at each point of support, to prevent the electric fluid from passing to the building. Most of the rods we have seen have this contrivance carefully attached to them, and in most instances the ring was placed inside a hole through an iron rod or bolt, the other end of which entered the timbers of the building.

Now, there are but two objections to this contrivance, namely, the first, it is of no use; and secondly, it misleads to security by causing neglect of other precautions—all for the following reasons:

1. The distance insulated is two small to be of any practical utility, for very small charges of the fluid, such for instance as may be obtained every successive second from any good electric machine, will leap through the air a greater distance than that from the rod to the iron support; consequently in the heavy explosions from the clouds, it would be perfectly inefficacious.

2. The glass, by becoming wet, as it certainly would in any thunder storm, would immediately become a conductor, and if useful at any other time, would now lose all its valuable property.

3. The nearness of the rod to the iron support, would tend to turn the fluid into the building, if the communication to the earth below should happen to be imperfect, or if the explosion were too large to be easily carried down by the rod.

A much better plan is to make supports of wood, which may be of plank or small scantling, with a hole bored through one end for the passage of the rod, the other to be screwed, nailed, or mortised into the building, so as to hold the rod off at least one foot distance from the outer side or wall. If the rod is sharp at the upper end, high enough above the roof, continuous throughout, and enters the earth several feet (at least 6 or 7,) so as to reach permanently moist earth, no danger can ever arise—because the electric fluid always takes the *best conductor*, and as iron conducts almost infinitely better than seasoned wood, and the rod is held by it at some distance from the building, the discharge would pass instantly into the moist subsoil and be as instantaneously dissipated through the earth. *Baked* wood is nearly as perfect a non-conductor as glass; and when a foot in length and compared with glass of only half an inch, would insulate incomparably the best. Every electrician is aware that the heaviest discharge from a Leyden jar may pass safely through a metal rod held in the bare hand, provided the communication is complete at each end of the rod—which being so much a better conductor than the hand, none of the fluid passes into the latter. In the same way, a good lightning rod, high above the building, and entering the earth deeply, will carry down a heavy discharge through even thoroughly moistened supports, without any tendency to pass into the building. An interesting proof of this fact occurred some years ago, at a house formerly occupied by the writer. The rod, an inch in diameter, was a single silvered point at the top, and entered the earth six feet, into a bed of charcoal deposited there. During a severe thunderstorm, an explosion occurred to which the discharge of a cannon seemed as a mere pop-gun, and the building trembled to its foundations. It was however found to be uninjured; but the next day the point of the rod with its cap of silver, was found melted into a ball, nearly as large as a rifle bullet. This rod was held about one foot from the clapboarding by means of wooden supporters, painted like the rest of the house; and but for its protection, in carrying down, as it evidently did, a tremendous discharge of lightning, the dwelling would probably have been shivered to fragments.—*Country Gentleman.*

Wetting Bricks.—It is important that every one engaged in building should be well informed in regard to the durability of materials. Very few people, or even builders, are aware of the advantage of wetting bricks before laying them, or if they are aware of it, they do not practice it; for of the many houses now in progress in this city, there are very few in which wet bricks are used. A wall twelve inches thick, built of good mortar with bricks well soaked, is stronger in every respect than one sixteen inches thick built dry. The reason of this is, that if the bricks are saturated with water, they will not abstract from the mortar the moisture which is necessary to its crystalization: and on the contrary they will chemically unite with the mortar, and become as solid as a rock. On the other hand, if the bricks are put up dry, they immediately take all the moisture from the mortar, leaving it too dry to harden, and the consequence is, that when a building of this description is taken down or tumbles down of its own accord, the mortar from it is like so much sand.

FOWLER'S DRAINING APPARATUS.

Eds. Genesee Farmer:—I have read your articles on underdraining, which have appeared in your most valuable paper at various times, with much pleasure. I fully agree with you that "underdraining will do more for the improvement of American agriculture than any other one thing." I am satisfied that what you say in the March number is true, that thorough underdraining will not only enable the farmer to "plow his land earlier in the spring and later in the fall, but so increase the temperature of the soil that it will mature the crops two weeks earlier than though it was not drained." I have tried some experiments in underdraining, and have received full compensation for all the money expended. Still it is an expensive operation, and I could wish that some of our ingenious mechanics would turn their attention to the subject, and invent a machine for digging the ditches. Such a machine would not only be a fortune to the inventor, but a great boon to the farmer.

I have somewhere read that there is a machine in England that not only digs the ditches, but lays the tiles. Do you know anything of it? If you do, a description of it would be very acceptable to at least one of your readers. James Williams—*Cayuga Co. N. Y., May 15th*, 1856.

Our correspondent probably alludes to "Fowler's Patent Draining Apparatus," which has been used in England with considerable success. Our English exchanges contain frequent allusions to trials with it in various parts of Great Britain, and almost invariably, where there are few or no stones in the ground, the trials have fully demonstrated the value and efficiency of the machine, while the cost of draining is reduced nearly one half.

The accompanying cut, engraved for the *Genesee Farmer*, will give a good idea of the construction of the machine. It represents the machine just as it is finishing the drain. When commencing work, the plow is taken to one end of the field, and the capstan is moored at the other; the wire rope being run off the drum of the capstan, and attached to the plow, (either singly in shallow draining or soft soils, or returned round a single sheave where greater power is required,) as shown in the drawing. The plug and coulter are dropped into a hole prepared for them, and the pipes, threaded on a rope, are attached to the back of the plug, the hole being sloped off backwards to allow them to enter easily. The horses are attached to the horse levers of the capstan, and by walking in a circular course, wind the wire rope on to the drum, and pull the plow forward, with the pipes attached. When the required length of drain is completed, (which may be anything under 225 yards,) the plow is run into another hole, and the ropes on which the pipes are strung, being unhooked, is pulled out backwards, and the drain is complete.

As it would be inconvenient to have the pipe rope in one length, it is made in pieces of fifty feet each, and by a simple contrivance, as one rope enters, the other is attached to the end. Great care and attention have been paid to the means of moving the machines for commencing another drain; and it does not now occupy more than a quarter of an hour from the time of finishing one drain to commencing another. The accuracy with which the pipes are laid cannot be equalled by any hand work; and from the bottom being undisturbed, they are never liable to sink, as is sometimes the case even in the best executed hand draining.

"By this process," say the manufacturers, Messrs. Fowler & Fry, of Bristol, "not only is the cost of burying the tiles reduced in many cases fifty per cent,

FOWLER'S PATENT DRAINING APPARATUS.

but from the quickness and neatness of the operation, it can be done at any season of the year, without injury to any short crop, or interfering with the com-

mon farm operations, the surface soil being untouched, except at the headlands, and where the hedges are low, the capstan can often be fixed in the next field. In undulating or flat lands, the levels are kept, or a fall insured by working the coulter up and down in the body of the plow, by means of the worm and worm wheel, shown in the drawing, the plowman's eye being guided by a try-sight balanced on the plow, and a cross staff erected at the end of the field.

"Several of these plows are now in constant work, and though great lengths of the drains have been opened in the presence of large numbers of agriculturists, in no instance have tiles been found incorrectly laid.

"The quantity of draining that can be done per day will vary with each particular field, but in common clay land, where the depth does not exceed 3 feet, between 6,000 and 7,000 feet will be completed with four horses in a common working day; but when the depth exceeds three feet, from two to three horses will not do more than half that quantity. Where it it is possible, this draining would be much more cheaply done in the summer, as twice the quantity of work may be done by having two teams of horses out, and the other expenses would not be increased in proportion."

We believe this machine has not yet been imported into the United States or the Canadas. Underdraining is beginning to receive that attention which its importance merits, and we think it might be well for some of our agricultural implement makers to see if a similar machine could not be manufactured in this country with profit. On the vast prairies of the West, where the soil is loose, and a stone is not to be found, there can be little doubt that it would work to perfection; and the time will soon come—if in many cases it has not come already—when many of our prairie farms can be underdrained with profit.

BOILING SHINGLES IN LIME AND SALT. — A correspondent of the *New England Farmer*, says :

"If the following fact is of any value, it is at your service. There is a building in this place, covered with shingles taken from another roof (where they had been in use some years), were boiled in lime and salt for about five minutes, and then re-laid. This was twenty seven years ago, and these shingles look now as if they would last some years longer.

"Other roofs that were treated in the same way since, appear well. They are clean and smooth, the moss does not form on them, and the water runs off readily.

There seems to be no reason why white-wash, with the addition of salt, would not be beneficial when applied to a dry roof, in proportion to the lime and salt absorbed by the shingles.

Have you not observed that where the rain washes the lime from the chimney upon the roof, that the shingles remain sound longer than upon the other part?"

WESTERN FARMING.—The *Rock Islander* of the 27th instant, states that about seventy years ago a father and son landed at Port Byron, in Rock Island County, Ill. After paying the freight on their few household goods, they had but seven dollars wherewith to begin life in the West. They went to work manfully and industriously ; bought a small piece of land, and added to it from time to time as they were able. A few days ago they were offered *twenty-one thousand dollars in cash* for their farm, which they refused.

WOOL GROWING IN THE UNITED STATES.

To a common observer nothing seems more extraordinary than the fact that this nation of intelligent farmers should be under the necessity of importing so many million pounds of foreign wool every year; to say nothing of the millions of yards of woolen goods also imported. If grazing lands were scarce, or held at high prices in this country; if the climate were unfavorable to the health of sheep, or to the production of good fleeces and mutton, it would be easy to account for the almost universal neglect of this great interest. But no such obstacles prevent the rapid multiplication of sheep, and the profitable extension of this branch of husbandry.

Why, then, do not the enterprising owners of the soil at the West and South embark largely in this business? What answer ought to be given to this question? Is it the fear of South American competition? or the want of a reliable market for the flesh as well as the wool of large flocks? Are dogs and wolves the dreaded enemies which prevent all serious efforts at wool growing on a scale in some degree equal to the necessities of twenty-seven millions of inhabitants? Whatever may be the hindrances, there should be knowledge and energy enough in Americans to overcome them. Capital judiciously invested in an enterprise of this kind would pay far better than money invested in railroads. The increase of sheep is rapid, and their care by no means expensive. Land adapted to their keeping may be bought in Georgia for fifty cents an acre; the pine timber on which will soon be worth ten times the cost of the land. All the new States offer important facilities for the economical feeding of large flocks of sheep. Land is not wanting. It is either capital or enterprise, or perhaps both.

Is it really impossible to raise so much as one efficient wool growing Company in this country? I trust not. Sound business men could easily organize a company on such a basis as to command the confidence of that class of capitalists who are interested in commercial and manufacturing operations. None of these are so safe as stock husbandry, if wisely managed. The Creator has given a self multiplying power to both animal and vegetable vitality, to assist the skillful husbandman in augmenting his gains, which is sought in vain in any mere trading or mechanical contrivance. Life is an agricultural element not sufficiently studied by farmers. In both sheep and swine its increase, under favorable auspices, is wonderful. Provide a fair supply of food, pure water and air, and one may breed sheep and hogs to any desirable extent, by the simple process of natural reproduction. Sustenance is the grand basis of both plant and animal culture. Nature feeds both, in many instances, very bountifully; but art and science should be ready at all times to lend her proper aid. Nature will not rear sheep, and shear and wash their wool for us. Man must do a part for himself; and the sooner he gets about wool growing, the better it will be for his country. L.

PAPER MANUFACTURE.—It is estimated that there is in the United States 750 paper mills in operation, having 200 engines, and producing in a year 270,000,000 pounds of paper, which is worth at ten cents a pound, $27,000,000. To produce this quantity of paper, 305,000,000 pounds of rags are required.

HOW TO JUDGE A HORSE.

A correspondent of the *Prairie Farmer*, contrary to old maxims, undertakes to judge a horse by outward appearances, and offers the following suggestions, the result of his close observation and long experience:

"If the color be light sorrel or chestnut, his feet, legs and face white, these are marks of kindness. If he is broad and full between the eyes, he may be depended on as a horse of good sense, and capable of being trained to anything. As respects such horses, the more kindly you treat them, the better you will be treated in return. Nor will a horse of this description stand a whip, if well fed.

"If you want a safe horse, avoid one that is dish-faced. He may be so far gentle as not to scare; but he will have too much go-ahead in him to be safe with every body.

"If you want a fool, but a horse of great bottom, get a deep bay, with not a white hair about him. If his face is a little dished, so much the worse. Let no man ride such a horse that is not an adept in riding—they are always tricky and unsafe. If you want one that will never give out, never buy a large, overgrown one. A black horse can never stand heat, nor a white one cold.

"If you want a gentle horse, get one with more or less white about the head; the more the better. Many suppose that the particular colored horses belonging to the circuses, shows, etc., are selected for their oddity. But the selections thus made are on account of their great docility and gentleness."

We once knew a horse that answered the above description of a "fool" exactly. His face was a little dished, and his color "a deep bay, with not a white hair about him." He was the worse tempered animal we ever saw; stubborn and tricky as a mule. He would throw the best of jockies, and get away from the most watchful of drivers. He would be walking along as gentle as a lamb, when on a sudden he would make a desperate plunge. On one of these occasions he leaped seventeen feet! Finding the jockey still on his back, he kept on his way as quietly as though he had never had the most distant idea of getting rid of his burden. Nothing could tame or tire him. So far, then, our experience confirms the above rule. But we have little doubt that there are many deep bay horses with slightly dished faces, that are as tractable as the "colored horses belonging to circuses, shows, etc."

We believe we have seen black horses that could stand heat, and white ones that could stand the cold. Indeed, we have heard intelligent farmers give it as their opinion that a white animal suffered *less* from cold than a darker colored one. An able writer in the *North British Agriculturist* says: "White is regarded by many as an evidence of delicacy of constitution; the very opposite we believe to be the fact. If a white color is an index of delicacy of constitution, how is it explained that animals exposed to cold, such as in the Arctic regions, are generally white; and what is equally remarkable, that in the interior of Africa, the domesticated ox is generally white, while the sheep are almost always spotted with brown or dark spots." We believe *color* has nothing to do either with the hardiness or delicacy of an animal.

Good Hogs.—Seven hogs were sold in Cincinnati, a short time since, whose total weight was 4,823 lbs., or upwards of seven hundred pounds each.

A FEW FACTS ON BREEDING ANIMALS.

There is an obvious connection between the internal vital organs of animals and their external forms. For instance, good lungs and constiuutional vigor, are indicated by a broad and deep chest, giving room for the heart and lungs to perform their functions.—A round—"hooped"—barrel shows that the animal possesses a full and capacious paunch, affording room for the materials from which the blood is provided, and indicates a tendency to easy fattening. A large pelvis in the females is an almost certain indication of good reproductive organs. Large bones and horns are evidence of hard keepers, and the farmer's object should be to lessen the bony structure and strive after a delicate but well-covered skeleton.

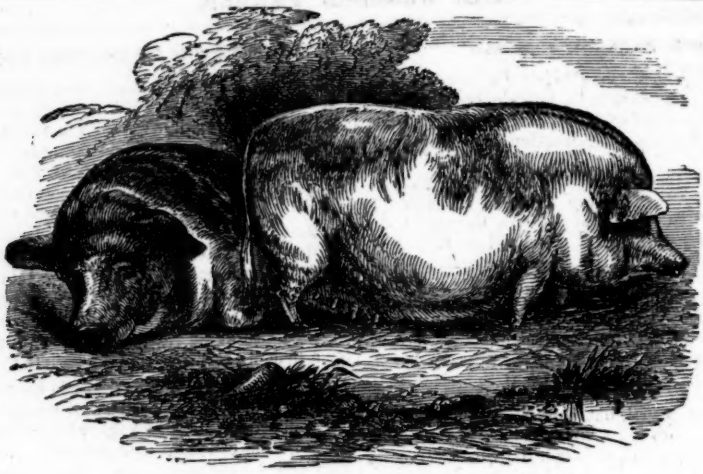
The strength of animals depends far more upon the development of the muscular system, than upon the mass of bones. This fact should have full weight in the selection of horses for breeding. Animals of any kind which have poor keep while young have their heavy structure disproportionately developed.

We are of the opinion, not that too much attention has been paid to the proper selection of males, but that too little care has of late been exercised in the choice of females for breeding. We would sooner have the latter above the medium size than the former. The practice of putting large males to small females will destroy any race of animals, if persisted in. A large male begets a large fœtus, and this a small female can neither accommodate nor duly support before or after birth. Let the males be medium in size, hard, compact animals; and let the female be rather above this point for them, and the progeny will continue to improve rather than degenerate, if wisdom and skill is exercised in the choice of other good qualities. It was through crosses with small barbs and Arabian stallions mainly that the improvement in English horses was brought about. A stallion, above all other male breeding animals, should have *compactness;* he should be *multum in parvo*, indeed. But a small, compact mare will seldom prove a good breeder, be her progenitors what they may.

It may not be possible to find a male of any race which is perfect—those must be chosen which have fewest defects. Especially should the breeder avoid male animals which do not possess the good qualities of form which he wishes to transmit to the offspring. No reasonable man, certainly, would unite animals which show similar defects. He could scarcely expect other than a mal-formed progeny. Great size and weight is not always an improvement. Locality and climate must be taken into consideration in deciding upon what race or breed of animals we shall propogate. In cold latitudes, a hardy race, not over nice in its food, will be found most profitable. A refined, delicate constitutioned race will surely degenerate in such situations.—*Prairie Farmer.*

Oxen versus Horses.—The issue of plowing matches throughout the country has, it is believed, established the fact, that oxen can plow a given space of ground *as quick* and *as well* as horses.—*Wool Grower.*

We very much doubt whether it is a "fact" that oxen can plow as *quick* as horses. But if it is, we would much like to know what "plowing matches" have "established" it.



CHINESE HOGS.

CHINESE HOGS.

This breed of swine has long been known in Europe and America, and has done much to improve our native breeds. As stated last month, the celebrated Berkshire hog owes some of its best points to an intermixture with the Chinese; and it is easy to trace the distinguishing characteristics of the Chinese in all our best breeds of swine. There are some seven varieties, or at least several kinds of hogs that are called "Chinese," produced by different climates, habits, &c. The kind most generally kept in Great Britain is a small, black, short-legged, quiet looking animal, with fine, small, stand up ears, short snout, thin skin, and a round, compact, fine muscled body, with scarcely any bones, and very little hair. They are much prized on account of early maturity, the rapidity with which they lay on fat, and the small amount of offal and bones. They make first rate "porkers," but are rather too small to be much valued as "bacon" makers.

They are chiefly valuable in this country for improving the large, hardy breeds of hogs. They are not sufficiently hardy themselves, ever to be a useful breed, except in a warm climate. Their meat, too, is said to be soft and oily. But by judicious crossing with some of the large, coarse breeds, great improvements could be effected in a short time. American farmers should turn their attention to this subject. We want a breed of hogs possessing the early maturity and fattening qualities of the Berkshire, the Suffolk, the Essex, the Neapolitan, and the Chinese, combined with the size of the Yorkshire or Lincolnshire, and the hardiness of many of our so called native hogs. We want a breed adapted to the climate of this country. The breeds originated in England by crossing the large native hogs with the Chinese and Neapolitan are unquestionably the best breeds in the world for the English climate. It does not follow, however, that they are the best for this country. Instead of purchasing these breeds, we had better originate a breed or breeds of our own, by the same means which have been successful in England.

The Chinese pigs are remarkably prolific. Mr. Henry Parsons, of Guelph, C. W., who had some of the breed directly from China, informed us some time ago, that he had some trouble to keep them from breeding too fast, and too many at a litter.

Our cut is a representation of two fine specimens of this breed owned by the late John Delafield, Esq., of Geneva, N. Y. At the time the cut was taken, the sow was suckling thirteen as nice, fat little fellows as any lover of "sucking pig" could desire. It is surprising how fast the little fellows grow and fatten, if well kept in a warm, clean sty.

Poisonous Properties of Brine.—M. Reynal states in the *L'Union Medicale*, that the brine obtained from the process of salting various kinds of meat and fish is used by the lower classes in France as a condiment in place of common salt, and by farriers as a remedy for diseases of domestic animals. Instances of poisoning, however, from its use having been noted in Germany, M. Reynal proceeded to investigate its action, and from a series of experiments detailed, draws the following conclusions:—1. That three or four months after its preparation, it acquires poisonous properties. 2. That the mean poisonous dose for a horse is four pints; for a hog, one pint; and for a dog, four or five gallons. 3. That in less doses it produces vomiting in the dog and the hog. 4. That the employment of this substance mixed with the food, continued for a certain time, even in small quantity, may be fatal. These facts are important, when it is recollected that smoked meat and sausages have sometimes exhibited poisonous properties.

Salt Your Cows and You Will Have No Trouble in Churning.—A small handful of salt given to cows twice a week seems to act as a preventive against many of the diseases incident to neat cattle. Besides, regular salting in small quantities, saves a great amount of labor at the churn—*a fact worth knowing* to those who have to toil an hour or more to bring a few pounds of butter, and perhaps then of an inferior quality.

Some heifers, which with their first calf give but a small quantity of milk, will, in two or three years, become good cows.

ANOTHER LARGE IMPORTATION OF CATTLE.

THE *Liverpool Mercury*, of April 22d, says:

It is not perhaps generally known that cattle are frequently shipped at this port for America. It appears that English cattle, particularly Shorthorns, are held in high esteem on the other side of the Atlantic, and in some instances almost fabulous prices are given for them, when they are known to have been selected from the stocks of eminent breeders. This state of things has necessarily called into more active requisition that spirit of enterprize for which the American people are proverbial, and large shipments of cattle are made from England to supply the demand in the American markets. The trade is carried on by agents sent to this country for the purpose of attending our principal cattle sales, and making purchases. By the infusion of new blood in the American stock it is anticipated that many of its hereditary defects will be done away with, and the general character of the breed materially and permanently improved.

On Tuesday last an extensive shipment of cattle for this purpose was made at this port by Messrs. Bell, of the Adelphi Hotel coaching establishment. They had previously conducted other consignments of a similar kind. The stock comprised 24 head of Shorthorned cattle and a lot of Southdown sheep, all of them being of that high class for which our own country and Ireland are so distinguished. They were purchased at cattle sales and from herds in various parts of the kingdom, and amongst the breeders are to be found the names of Earl Ducie, Sir C. Knightly, Messrs. Booth, Bolden, Fawkes, Townley, Barnett, Fowler, Lindsell, Sanday, and that enterprising Irish farmer, Mr. Christy.

The sheep were from the far-famed flocks of Messrs. Lugar and Webb. The greatest portion of the stock were selected by Messrs. Marshall and Smoot. A fine year-old heifer attracted much attention. It took the first prize for the best yearling heifer at the Royal Dublin Society's Show, against all Ireland, and also won the Challenge Cup of £50 given by Colonel Towneley, of Towneley-hall. A splendid bull, called Vatican, took the first prize at the Royal Agricultural Society's show, held at Lincoln, in 1854. There were several other fine specimens from the herds of F. H. Fawkes, Esq., of Farley-hall, and the above named breeders. A portion of the animals were consigned to Mr. Thorne, of New York, who is well-known here as a celebrated cattle breeder, and more particularly from his having conferred a distinguished honor on this country by selecting two bulls, for which he gave the extraordinary sum of 1000 guineas each. Others are for breeders and farmers in Kentucky.

In addition to the cattle there were some valuable dogs, and a celebrated bay entire horse, "Lord Raglan," a descendent of Beeswing. The whole of the stock has been purchased at great prices. Adding the expenses of shipment, &c., the value of each beast will be considerable more than doubled on reaching its destination—a convincing proof that English cattle maintain a high reputation amongst American breeders. The cattle were shipped in the Leona, Captain Norris, for Philadelphia, ample accommodation being provided for them between decks. A quantity of hay, roots, cake, meal, &c., and an abundant supply of water, were put on board for their sustenance during the voyage. Every precautionary measure was taken for their comfort and safety, and we hope they will reach their destination without the slightest accident.

The fittings and arrangements for the shipment were conducted solely by Messrs. Bell, who accomplished their task in the most satisfactory manner. Mr. Strafford, of London, the eminent auctioneer, and editor of the "Herd Book," came down to Liverpool to see the cattle placed on board the vessel, and expressed his approval of the way in which Messrs. Bell had discharged their duty. There is little doubt that as the facilities at their command and which are offered at this port for shipping cattle become more generally known, this branch of traffic will be largely increased.

EXPERIMENTS IN FEEDING MILCH COWS.

WE promised to give the result of different kinds of food used by us in feeding milch cows. The experiments were tried upon three farrow cows during the severe weather of January and February, which accounts for the small yield of milk. They received the whole time what hay they would eat, besides the additional articles mentioned in the table. They were fed four days upon each kind in the order enumerated, receiving four quarts when provender was used, and a half bushel when roots were fed.

Discrepancies occurred in the daily amounts, depending upon the weather and the time of milking, but have generally disappeared when the sum for the four days was obtained.

1.	Hay,	76	pounds of milk.
2.	" corn and cob meal, 4 quarts,	85	" "
3.	" buckwheat bran, 4 quarts,	84	" "
4.	" rye bran, 4 quarts,	90	" "
5.	" ruta bagas, half bushel,	87	" "
6.	" rye bran, 4 quarts,	88	" "
7.	" corn and cob meal, 4 quarts,	80	" "
8.	" mangel wurzel, half bushel,	91	" "
9.	" carrots, half bushel,	98	" "
10.	" corn and cob meal, 4 quarts,	100	" "

Owing to the brief period each kind of feed was employed, their relative merits are not fully shown, for the quantity of milk in each case must have been influenced by the one that preceded. One thing, however, is conclusively proved, viz, that grain fed to cows in ordinary condition does not all go to fat, but also affects the milk. One of the periods for meal gives a very low result; another being the highest in the table, by the addition of the three we obtain a fair average. We think the yield of the first period before meal was given was about as it had been since the setting in of cold weather, and that it would have continued to diminish without the extra feed. The extra yield of milk would not alone pay for the extra feed, but some hay was saved, and the condition of the cattle decidedly improved the whole time. There is nothing gained by stinting cattle. If two will eat the food which will sustain three, it is more profitable, commonly, to give it to the two. While some few breeders may injure their animals by too high feeding, this is one of the least of the dangers to which common farm stock is subjected. Neglect here results in the loss of thousands of dollars annually, even in our little State.—*Homestead.*

ANIMALS BECOME PARENTS TOO EARLY.—Victor Gilbert never allowed ewes to have lambs until they had passed their third year; and the bucks were not used until they had arrived at full maturity. He, as well as many other sagacious stock-raisers, that we might name, are probably conversant with the fact, that during the period of growth and developement, up to maturity, the re-productive organs are dormant, while at the same time the nutritive function was wholly engaged in elaborating *chyle* and blood for the development of bone, muscle, and nerve; and that by calling into requisition the re-productive or generative organs, before the animal had attained full growth, must necessarily divert the elements of matter, intended for nutrition, from their ligitimate channel, and direct them to the re-productive organs. This is precisely what takes place. A too early use of the purely animal function, induces weakness and stunted growth.—*Am. Vet. Journal.*

CURING HAMS.—At the late Fair of the Maryland State Agricultural Society, the first, second, third and fourth premiums were awarded to hams cured as follows:

1st. To 150 pounds of Ham, take 1½ lbs. saltpetre, 4 quarts of fine salt, with molasses enough to make it a paste—rub well on the flesh side—let it lay 4 weeks—make a pickle strong enough to bear an egg—let the Hams lay in it 4 weeks—then hang and smoke. Two days before removing from the smoke house, paint with black pepper and strong cider vinegar, after which bag them.

2nd. Ham weighing 10¾ pounds, cured by Mrs. Sam'l Carr:—Half bushel of salt, 2 pounds of saltpetre, 2 pounds of black pepper, 2 pounds of cayenne pepper, 8 pounds of brown sugar. This mixture, rubbed on 50 hams, averaging 10 pounds, smoked gradually with hickory chips.

3rd. To 100 lbs. ham, to average 10 or 12 pounds, half peck ground alum salt, 1 pound sugar, 1½ oz. saltpetre, 1 quart hickory ashes, 2 ounces salaratus, 2 ounces red pepper; mix them well together, rub the hams well, and stand them on their hocks, and let them remain for 5 weeks, then hang them up and smoke them about 1 week. For 1000 lbs. hog meat, half bushel of fine salt, half a gallon best molasses, 3 pounds of brown sugar, 2½ pounds of saltpetre, pounded very fine. Mix all the ingredients well together in a large tub, and rub the meat then with it until you absorb the whole quantity. The meat must be taken out of the cask once a week, and rubbed with the pickle it makes. The two last times you take it out, add at each time a plate full of alum salt. It ought to remain in pickle five or six weeks, or according to the size of the meat

4th. For 100 pounds of ham, 8 pounds of salt, 2 ounces of saltpetre, 2 pounds of sugar, 4 gallons of water; the ham remaining in pickle 8 weeks.

TURNIPS FOR MILCH COWS.—I wish to say a few words about this root, as I differ with many writers somewhat in my estimate of its value. I have invariably found them to lessen the *quality* of the milk for butter-making, which is with nearly all farmers *the* desideratum in keeping cows. I am satisfied that for those who sell their milk, they may prove a good feed, as they increase the quantity considerably, but the cream will not rise. This spring I took my turnips from the pit to feed my cows, (only two,) as my carrots were gone. I gave a little less than a half bushel a day, and within two weeks they had fallen off nearly four pounds a week in butter, but the milk was sensibly increased. I took the turnips from my cows and gave them buckwheat bran, under which regimen they lessened in milk and increased in butter. As this is my first direct experiment in feeding turnips, I would not like to speak positively on the point until I have given them another trial; an account of which I will furnish you. D.—*Gates.*

MILK REGULARLY—Cows should be milked at regular intervals of twelve hours, as near as possible, especially during the hot summer months. Cows then feed mostly in the morning and evening, choosing to rest in the cool shade through the middle of the day; hence they should be milked and turned out before sundown.

Rancid butter, it is said, may be rendered sweet and good by churning it in new milk. Try it, and give us the result.

A CASE FOR ORNITHOLOGISTS.—AN EAGLE HATCHED AND NURSED BY A SHANGHAI.—About six weeks ago Mr. Robert Cameron, who resides on the Miami river, a few miles below Hamilton, Butler County Ohio, discovered a bald eagle's nest on a huge Sycamore tree standing near the river, and one of his sons, an active and adventurous fellow, by "tall climbing" reached the eyrie, and made a prize of two eggs of the bird of our country, which were at once deposited under a "setting hen," and in two weeks a fine, lusty eagle picked the shell, and made his appearance, with less pain and pomp and circumstance than attended the birth of the "enfant de France." One of the eggs proved a failure, and this, with the eggs of the hen, were thrown away, it being considered that the barnyard fowl would have quite enough to attend to in the person of the feathered "prince imperial;" and the chicken and eagle are both, we are pleased to learn, doing as well as could be expected. The plebian nurse-fowl is, we are informed by Mr. Cameron, apparently, at times, very much astonished at the eccentricities of His Royal Highness, the infant bird of Jove, whose keen, unflinching eyes, and stout, sharp, crooked beak, and appetite for fish and flesh, are slightly terrible, and beyond her appreciation. Still she attempts to relieve his wants with true motherly devotion, and in trying to induce him to take a promenade, *clucks* at him vainly by the hour. His legs are not serviceable, and disclaiming to crawl after her, he looks with eager aspirations, as becomes his illustrious race, skyward. He is very fond of fish, and luxuriates in rats and snakes, though he is not yet strong enough to skin them for himself. The quantity of skinned garter snake that he consumes is queer, he being competent to dispose of almost his weight in that article of prepared snake.—*Cin. Commercial.*

EGGS-TRAORDINARY.—The French practical philosophers certainly know how to make the most of things. The rats of Paris supply the ladies with gloves, if not with mince pies; and a Mons. de Sora has recently discovered the secret of making hens lay eggs every day in the year. He feeds them on horse flesh; and obtains his supply of twenty five or thirty a day, among the used up hacks of the city. His *Hennery*, a few miles from Paris, has furnished about forty-thousand dozen of eggs a week, at the rate of six dozen for four francs, yielding the proprietor for every seven days the round sum of $5,000, or $260,000 a year.—Mons. de Sora employs about one hundred persons, mostly females, and his entire expenses are only about $75,000 a year, leaving him the handsome balance of $185,000 profit. He never allows a hen to set, and all his chickens are hatched by steam. The eggs are arranged upon shelves and covered with blankets; and each morning a swarm of chickens are taken to the nursery.

HEREFORD BEEF.—The *Tribune* states that a pair of five-year-old Hereford cattle, bred by George Clark, of Otsego county, N. Y., have lately been sold in New York for $350; that the butcher who bought them says he never had better beef, and that in New York market Hereford beef "will be appreciated hereafter."

FOUL NOSES IN SHEEP.—Dip a small swab into tar, then roll in salt. Put some on the nose, and compel the sheep to swallow a small quantity.

A SMALL BRACKETED COTTAGE.

A SMALL BRACKETED COTTAGE.

In the last number we gave a plan of a very cheap cottage, which could be built here for about $500. We now present our readers with another, and a very pretty design, the cost of which will be from six to eight hundred dollars, according to the cost of material where it is built. We shall continue to give plans for cottages and farm houses, many of which will be of more value to any person designing to build, than ten years subscription to the *Genesee Farmer:*

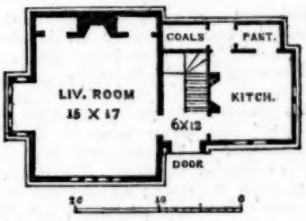
This little cottage, with about the same number of square feet as the one given in our last number, is more picturesque, from its irregular form. It would, on this account, be selected by all those who prefer irregular to regular symmetry.

There is also a good deal more *feeling* shown in this cottage than in the last. The features which express this are the bay window, the rustic trellises covered with vines, and the bracketed vine-canopy over the end window in the principal apartment.

Now, every cottage may not display *science* or knowledge, because science demands architectural education in its builder or designer, as well as, in many cases, some additional expense; but *feeling* may be evinced by every one possessing it, and there is no more striking or successful way of manifesting it in a cottage, than by the employment of permanent vines to embellish it. Something of a love for the beautiful, in the inmates, is always suggested by a vine covered cottage, because mere utility would never lead any person to plant flowering vines; and much of positive beauty is always conferred upon simple cottage forms by the graceful growth of vines, through the rural and domestic expression they give to the cottage.

The little rustic arbors or covered seats on the outside of the bay window, may be supposed to answer, in some measure, in the place of a veranda, and convey at the first glance, an impression of refinement and taste attained in that simple manner so appropriate to a small cottage.

The plan of the first floor of this cottage shows an entry, six by twelve feet, containing a flight of stairs to the chamber floor, under which are stairs to the cellar. On the left is the living room of the family, fifteen by seventeen feet. The deep chimney breast at the end of the room gives space for two large closets. The bay window measures six feet in the opening, (in the clear,) and is three feet deep.



GROUND PLAN.

On the right of the entry is the kitchen, a small room, ten by twelve feet. As the living room of the family will, in a great measure, be also the kitchen, this small kitchen will in fact, be used as a *back* kitchen for the rough work, washing, etc., so that in summer, and, indeed, at any time, the living room can be made to have the comfortable aspect of a cottage parlor, by confining the rough work to the kitchen proper. Back of this kitchen is a small lean-to addition, containing a small pantry, four by six feet, and a place for coals. There is a small passage between this closet or pantry and the coal hole, and opposite the door opening from the kitchen into this passage is a door which serves as a back door to enter the kitchen without going in the front entrance.

The chamber floor has two bed rooms, each nine by fifteen feet, and one bed room ten by twelve feet.

This plan may be easily varied, so as to give a more agreeable and symmetrical effect, with little additional cost. To do this, lessen the depth of the chimney breast at the end of the room, and reject the two closets there. This would make the living room two and a half feet longer, or fifteen by nineteen feet six inches. Next, place the bay window exactly in the

centre of the wall, which would add to the external symmetry. By turning the place for coals into a closet, with a door opening into the living room, and having a wood house or coal house detached, space would be gained, and the arrangement would be more pleasing, though perhaps, not quite so convenient.

The construction of this cottage is the same as that in last number. Planed and matched, or rough boards may be used for the vertical weather boarding; we should prefer to have them rough, if the cottage is filled in, and painted and sanded.

We have shown in this cottage, the simplest form of cottage window—that is, the casement window, opening in two parts from top to bottom. These sashes are less expensive than rising sashes, with weights, but more so than those without weights. The latticed sash with diamond panes we have introduced as more significant of a cottage. Indeed, there is something in the associations connected with latticed windows so essentially rural and cottage-like, that the mere introduction of them gives an air of poetry to a house in the country.

The chimney tops are built of brick, in a very simple, but at the same time, more tasteful manner than the heavy brick stacks usually seen.

The front door is merely covered with a hood on brackets. Its beauty would be enhanced by making this canopy or hood bolder, and extending it five feet, making the sides of lattice work, and covering the whole with vines.

THE PROSPECT.

The restoration of peace in Europe has already had a tendency to lower the price of breadstuffs in the United States. The best qualities of flour have fallen three dollars per barrel, and inferior qualities in a corresponding ratio. Prices will probably be still further reduced when the navigation of the lakes and canals is fully opened. The grain which for three years has been accumulating in Russian ports will now be hurried to the English markets. The countries whose trade has been suspended by war, will be anxious to resume their commercial intercourse with the western European nations. Under these circumstances, we see no prospect of an extensive foreign demand for our agricultural products. Still we do not expect extremely low prices. With the good degree of activity in our manufacturing classes which now prevails and bids fair to continue, there is no fear that the prices of breadstuffs will be brought below a price that will fairly remunerate the producer, under the ordinary yield of crops. The extraordinary prices which have prevailed during the last year or two, could not be supposed to be permanent; they were based on an unnatural state of things. They have had in some respects an injurious tendency. They have stimulated gambling operations among dealers, by which the consumer has been forced to pay exorbitantly for the means of supporting life, while the producer has not received a proportionate benefit—a large portion of the profits accruing to the dealer. Some of this class, however, will now suffer the consequences of their mercenary and selfish conduct in the great decrease in the value of stocks on hand. The war prices have also stimulated reckless speculations in western lands.—Prices have been carried beyond what the lands are intrinsically worth, and under the sober and reasonable system which universal peace will bring in, a reduction may be anticipated. Yet the natural and constant growth of the country will be sufficient to maintain living prices of property and produce; and though the extravagant promises of speculators may not be realized, the honest working man need not fear that his labor will fail to receive a fair reward.

As to the crops of the current year, no positive statement can, of course, be hazarded at present. We hear nothing unfavorable to wheat, from any quarter. The winter was hard on fruit trees, at the south-west, and considerable injury is said to have been done to pear, peach and other species of trees. Considerable loss is said to have been suffered in the death of cattle and other domestic animals, in some sections, by the severity of the weather. But this may prove a blessing by teaching the owners that it would be for their interest to do what, from the principle of humanity, they should have done before—provide shelter and suitable food for their stock.

In this section of the country, the great body of snow went off wholly by sunshine. Of course it went slowly, allowing its ammoniated water to percolate through the soil. We have had abundant rains since the middle of April, and though the temperature has been low, grass is remarkably well set and has a very promising appearance. Other vegetation, however, is backward, and from the general wetness of the soil, the spring work of the farmer is somewhat delayed.—Should the weather be moist through June—which is always an indispensable requisite of the hay crop in this latitude (in America)—hay will probably be more abundant than for several years.—*Boston Cultivator.*

THE SEASONS LATER THAN FORMERLY.

In a conversation with a young gentleman of your city, I stated that the seasons,—particularly the spring—were not as early as formerly. He thought I must be mistaken. Now I will show you my opinion and on what that opinion is based. Thirty-three years ago last March, I came into this county from the banks of the Hudson. At that time the ground was covered with snow but there was no frost in the ground. All our spring's work was done during the month of April, except planting corn and potatoes; these were finished by the tenth of May. I could name persons in the town of Wheatland who for several years invariably planted their corn in April. The next year, most of the oats and barley grown in the town of Rush were sown during February or March, and for quite a number of years there was neither barley nor oats sown as late as the month of May, except some pieces for late crops to be cut green. Haying was done during June sufficient to put in the bottoms of bays to store wheat on; and invariably within a few days after our Fourth of July jubilee, (on which day we had our first mess of green corn and new potatoes,) we commenced harvesting our wheat, which in those days *was* wheat.

At a future time I may give you some more proofs of the changes of the seasons and the consequences, but *I* shall not touch on the causes of such changes. D.—*Gates.*

Mechanics in the West.—The *Prairie Farmer* says: "The Eastern papers are complaining that mechanics are leaving there for the West. The demand for their work here is great; the pay is good, and cash down, and is costs but little to reach the West now. A thousand or more mechanics are wanted, at good paying wages, in Chicago alone, and then there are scores of thriving towns all over the State where help is needed, and all kinds of work finds ready and ample demand. Come West and say you want work, and at it you can go at once."

Horticultural Department.

HORTICULTURAL HINTS FOR THE MONTH.

The Summer management of fruit trees is a subject too important and too extensive to be discussed in our limited space this month. Every year witnesses great improvements in the cultivation of all kinds of fruit, and we are glad to perceive that there are thousands of intelligent farmers, in all sections of the country, who manifest some degree of interest in this matter, and are beginning to realize that few subjects are more worthy of their attention. Still it must be confessed that good cultivation is the exception, and an unprofitable and shameful neglect the rule, among the generality of fruit growers. How many trees are planted every year in grain or grass, and left to wither and to die? How many are planted without judicious pruning, without due preparation of the soil, without mulching, or that cultivation of the land which is necessary to insure the vigorous growth of all the superior kinds of fruit trees? We have met with individuals who appear to think that the best way to secure good fruit, is to allow the trees to take their *natural* growth. This is a great mistake. Fruit trees are not, strictly speaking, in a natural condition. "Our garden varieties of fruit," says the lamented Downing, "are not natural forms. They are the artificial productions of our culture." * * * "Transplanted into a warmer aspect, stimulated by a richer soil, reared from selected seeds, carefully pruned, sheltered and watched, by slow degrees the sour and bitter crab expands into the Golden Pippin, the wild pear loses its thorns and becomes a Bergamotte or a Beurre, the Almond is deprived of its bitterness, and the dry and flavorless Peach is at length a tempting and delicious fruit." These results are the work of Art. Our fruit trees are in an artificial condition, and require artificial treatment. Left to themselves, they soon deteriorate, and ultimately return to their natural, or wild state.

Summer Pruning.—Those who advocate "leaving trees to themselves" during the summer, generally resort to heavy pruning the following winter or spring. This removal of large branches promotes an increased growth of wood, and retards the production of fruit; whereas, it should be the object of the cultivator to retard, within certain limits, the growth of wood, and to increase the size, flavor and quality of the fruit. "Without summer pruning," writes an eminent pomologist, in one of the back volumes of the Genesee Farmer, "we would greatly prefer to have trees *left entirely to themselves*, during the whole season. It would not only be a great saving of labor, but more favorable to the health, longevity, fruitfulness and beauty of the tree." When once understood, summer pruning soon becomes the most fascinating employment in the garden, and is really one of the most useful and important branches of the science and art of tree culture.

The accompanying figure (Fig. 1) of a side branch of a pear tree will enable the reader to form a tolerably correct idea of what we mean by summer pruning. This branch had been shortened in at the winter or spring pruning, and below the leader two shoots, *a*, *a*, are produced, which are not needed in the body of the tree. These should be pinched off at *b*, *b*, leaving only three or four buds.

Fig. 1. Fig. 2.

The sap has always a tendency to flow to the extremities of the shoots, to the material injury of the branches in the body of the tree. Pinching off the growing points concentrates the sap in the lower parts of the shoot, and converts it into a fruit branch.

Pinching may be done at any time after the shoots have acquired sufficient length. Vigorous trees, in rich soils, when pinched the present month, not unfrequently start out again where the shoots were pinched off, and it is necessary to repeat the operation. On this account, some prefer to delay pinching till the latter part of July or beginning of August, and then, instead of pinching off the shoot, to break it down, as at *a*, Fig. 2, leaving it to hang on the tree for a week or two, and then cutting it away with a knife. In this way the sap is not checked so suddenly, and the remaining buds are not so liable to push into wood.

All superfluous or awkwardly placed shoots should be pinched or rubbed off while soft. If allowed to remain till the end of the season, and then pruned off, a portion of the sap and force of the tree have been uselessly expended, and the foundation laid for future crops of similar productions.

Grape Vines.—Grapes delight in a dry, loose, warm soil. In fact, they will do well in no other.—They require, however, an abundance of food, and evaporate from their leaves an immense quantity of water. The most favorable circumstances for the production of grapes, then, consists in a warm, dry soil, made rich by manure, and artificially supplied with water during the formation and early growth of the fruit. The two last conditions can frequently be supplied together by the use of liquid manure. A teaspoonful of Peruvian guano to a gallon of water forms a liquid manure that has no superior for grape vines. If there is an abundant supply of water, we should prefer to lessen the proportion of guano. We have but little conception of how extremely dilute is the true food of plants. Experiments made at Rothamstead to determine the amount of water given off by plants during their growth, show that the wheat plant evaporates 3111 grains of water for every grain of mineral matter taken up from the soil, and 268 grains of water for every grain of carbonaceous matter organized in the plant. In barley, peas, beans and clover, the quantity of water given off, *in proportion* to the amount of food taken up, is somewhat less than with wheat, but the lowest figures

(with red clover) are 1884 grains of water taken up and evaporated through the leaves, for one grain of mineral matter. Liquid manure, then, should be exceedingly dilute. Another point, too, should not be lost sight of. Plants, it is believed, do not take up food that it is even partially *organized*. For instance, they do not take up humus or urea. These carbonaceous and nitrogenous compounds must be reduced by fermentation to carbonic acid and ammonia, before they are proper food for plants. Every gardener knows that the fresh liquid of the cow or horse stable will kill his plants; but the same liquid, after it has undergone fermentation, can be applied, not only with impunity but with decided advantage. We believe that those who use guano in solution would find it advantageous to have a tank or hogshead in which the liquid could remain a few days to ferment before being applied to the plant. If as dilute as it should be—owing to the strong affinity of water for ammonia—no loss of this "spirit of the farm" need be apprehended from fermentation.

Any extremely dilute, fermented, liquid manure is good for vines, and may be used with advantage in large quantity. It does not require much time or labor to throw half a dozen pailfuls of water, once or twice a week, on all the grape vines generally found in most farmers' gardens, and certainly the benefit resulting from it will astonish all who have been in the habit of leaving the vines to "take care of themselves."

This leads us to another important subject, in reference to the management of the grape—*Summer pruning*. "What!" says one, who injured his vine last year, by cutting off nearly all the leaves—"you surely don't recommend summer pruning!" Not as you understand the practice. No sensible man would dream of removing the leaves—the *lungs*, as they have been somewhat fancifully called—of plants. But summer pruning, properly understood and practiced, is of great advantage. The whole force of the vine should be directed to the sustenance of the fruit, and the necessary shoots for training and bearing the following year. To this end, all superflous shoots should be rubbed or pinched off in May or June.

After the grapes are formed, the bearing shoots should be shortened in by pinching them off two or three eyes beyond the fruit, as shown in the accompanying figure. It is not well to pinch too close to the bunches. Some prefer to delay this operation till August or September, and then to break down the shoots and let them hang on the tree in the manner we have described for fruit trees in a preceding article.

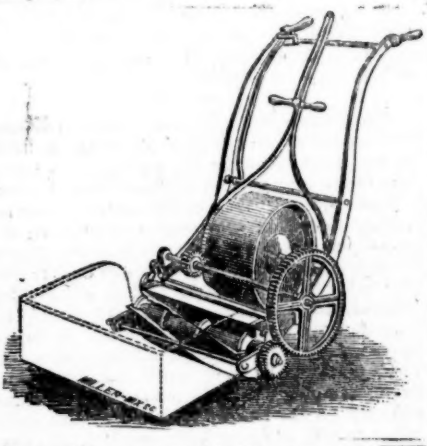
Layering the Carnation.—The present month, or just as they go out of bloom, is the time to attend to the propagation of the carnation by means of layering. Strip off the leaves as far as it is necessary to imbed them in the ground; cut off an

inch or so from the ends of the leaves; then cut the stem below a joint, half through, turn the knife upward and slit the stem to the next joint above; cut off the small portion remaining below the joint where the incision was made, clean to the joint, and then bend the stem into the ground and peg it down; draw the earth around it carefully, and so as to leave the head of the layer in as upright a position as possible. A gentle but thorough watering completes the operation. Roses should also be propagated in this way, shortly after they are out of bloom. The accompanying cut of a carnation layer will give a good idea of the operation of layering in general.

Ammonia in Green-Houses.—It has long been known that the ammonia arising from fermenting manure, leaves, &c., in green-houses was very beneficial to grape vines and all other plants. The recent experiments of M. Ville have called more particular attention to this subject, and gardeners are very generally acting upon his recommendation of supplying green-houses with an artificial supply of carbonate of ammonia. Instead of purchasing the carbonate of ammonia from the druggist, the gardener can make it himself with ease, and at very much less cost. Some gardeners supply their green-houses with ammonia by scattering Peruvian guano on the floor. This certainly accomplishes the object, but it is a wasteful practice. Peruvian guano contains some sixteen per cent. of ammonia, but not more than one per cent. of it is in the form of a carbonate, the remainder, in a sound guano, being principally in the form of urate of ammoniaa—non-volatile salt. We do not, therefore, get more than one-sixteenth the amount of ammonia from the guano that it is capable of yielding. This urate of ammonia is readily changed into the volatile carbonate of ammonia, by allowing the guano to ferment. Take a pound of guano and add half a pint of water to it, and it will soon ferment in a warm greenhouse, and furnish all the ammonia required. Mixing

quick-lime with guano will drive off ammonia, but in this case caustic ammonia—not the mild carbonate—would be formed, and it might prove injurious. If guano cannot be obtained, any highly-nitrogenous substance, such as hair, woolen rags, scraps of hide, &c., will answer the purpose. Place some of them in a pail, and mix them with a few unleached ashes, and moisten the whole with water, and they will soon ferment and furnish the green-house with all the ammonia required.

Mowing Grass Plots or Lawns.—Nothing adds so much to the appearance of a house or garden as a green, velvety lawn or grass plot. Few things are more difficult to obtain in our dry, hot, dusty summers. There is, however, no insuperable difficulty in the way. Intelligent care and attention will be amply rewarded. American travelers admire, and justly, the grass plots and lawns of England; but few of them realize the immense amount of labor required to keep them in such fine order. They are generally mown once a week, and in growing weather (growth is never so rapid as in this country) not unfrequently twice a week. In fact, no matter how well the soil is prepared, nor how good the turf, nor how judiciously screened from dust and the burning rays of the sun, all will fail to furnish a good lawn, without the frequent use of the scythe and roller. The grass should never be allowed to get an inch high. The labor of sweeping off the grass may be avoided by the use of a daisy rake.



The machine represented in the accompanying engraving has been used in England for mowing lawns for upwards of twenty years, and gives very general satisfaction. A similar machine, with some additional improvements, is made by H. N. Swift, of Fishkill Landing, N. Y., which is well spoken of by those who have used it. With the general introduction of this machine, we may expect to see a great improvement in the management and appearance of our lawns and grass plots; for the English machine—and we presume the same is true of the American—can be used to advantage only on a smooth lawn and short grass.

Self-Supporting Ladder.—To carry out the system of summer pruning we have recommended, a self-supporting ladder is indispensable, especially if the trees have been neglected in previous years. For gathering fruit, too, they will be found exceedingly useful. No garden should be without one. Any farmer can make such an one as that shown in the accompanying cut, in an hour or two. The steps should be wide enough to be stood upon conveniently. The legs move on a joint. Sometimes they are made with a single prop, but two legs are far preferable, imparting strength and stability. An upright piece at the top is convenient to hold by. It should be made of light material, so that it may be carried about with ease.

FRENCH PINE ON WASTE LAND.

At a recent meeting of the Council of the Royal Agricultural Society of England, Mr. Gregg furnished an interesting account of the cultivation of Pine trees (*Pinus maritima*) on the sandy hills of the sea coast of France, stating that he had grown with success the same species on his own estate in Cheshire, England.

In an interesting article on "Tree Planting in Nantucket," in the *Boston Cultivator* of May 10th, E. W. Gardner states that the "French Pine" succeeds far better than all others, and that he has no doubt "that every acre of the thousands of barren waste lands, lying unused and almost worthless, may, by planting with the French Pines, become in twenty years worth eighty dollars per acre, and beautifully ornament our island. (Nantucket.)

The *Pinus maritima* has long been extensively cultivated on the waste lands in France, and is particularly calculated for sowing on the sand hills on the sea coast, as it is one of the few of the tribe unaffected by the sea breezes. The mode of culture consists in breaking up the surface and sowing about 20 lbs. of seed to the acre. It vegetates quickly and well, and the plants come up very thick, and are thus drawn up very straight.

When about the thickness of walking-sticks, they begin to thin them out. The first use made of them is to support the vines, there used as fences for the railways, and put to different purposes till they reach fourteen years' growth; by this time they stand at regular distances, and are called upon to pay their yearly rent. This is done by a strip of the bark being taken off about the width of the hand and seven feet high. In the summer, the turpentine exudes from the wound, and is scraped off as it forms; the following year another strip of the bark is removed, and so on every year till they come round to the part from which the bark was first removed; by this time the sore is healed, and they begin to tap it again. It is considered that each tree pays about 5 cents a year; and this land, which twenty years ago might have been purchased at 20 cents an acre, is now worth 16 dollars. The French Government sow extensive tracts of these wastes every year, and it is considered that the timber is benefitted rather than injured by the process, and found to be harder than those trees that have not been tapped.

Whenever you see a caterpillar's cocoon in your orchard, pull it off the tree and trample on it. If above your reach, use a light pole.

TWO BEAUTIFUL FLOWERING SHRUBS.

The Bridal Wreath Spirea—*Spirea prunifolia flora pleno*, or double-flowering, prune-leaved spirea. This splendid little shrub was introduced into England from China, in 1846, and has since been pretty generally circulated. It is perfectly hardy. A good plant is truly a magnificent object. We have a fine plant now in full flower on the lawn. It is about four feet high, and three in diameter, and every branch is literally a wreath of white flowers, from one to two feet long. Its flowers are produced on wood of the previous year's growth, and every bud produces a bunch of pure white flowers, with a little tint of green in the centre. It comes into flower about the middle of May, and continues two or three weeks in bloom. Its flowers are full and double, and resemble a little the flowers of the double-flowering white thorn. The flowers are produced before the leaves, which begin to make their appearance when it has been in flower about a week or ten days.

This beautiful Spirea is of the easiest possible culture, requiring only to be planted in a soil that is not too wet, and to be kept clear of weeds and other rubbish. It is easily multiplied by division of the roots, and cuttings of the young wood, three or four inches long, inserted in pots of equal parts of leaf mould and clean lake sand, and placed on a gentle bottom heat in a hotbed, and shaded from the sun, root freely. To make a handsome plant it requires two or three pinchings in of the young and most vigorous shoots, at intervals of two or three weeks during the growing season. It is one of the easiest forcing shrubs we have, not excepting, perhaps, the Forsythia Veridissima itself, coming in flower in ten or fifteen days after insertion in the forcing-house.

The Garland Spirea.

The Garland Spirea—*Spirea lanceolata.*—This is a beautiful, hardy shrub, flowering the present month, and growing to the height of from three to five feet, with slender elegant branches, which, being slightly pendulous, give it a very graceful appearance. Its wood is nearly black, with long spear or lance-shaped leaves; hence its name. Its flowers are produced on the wood of the previous year's growth, every bud producing a bunch of flowers, on stems of from three to five inches long, each separate piece making a beautiful little bunch of flowers for a bouquet, and the whole branch making a complete garland, of snowy whiteness. It is very beautiful in any situation. It is very showy and effective as a shrubbery plant, but it is more beautiful when grown by itself on the lawn. When grown as a single specimen it requires two or three pinchings-in, at intervals of about two or three weeks during the growing season; that is, when one shoot grows stronger than another, or out of place, or out of shape, it requires to have its top pinched out between the fingers and thumb, which checks its growth and throws the force of sap into the weaker branches. By this means any one may make as symmetrical a plant as was ever seen. It is also a beautiful plant for the green house, in winter or early spring. It goes not bear forcing well, so early as December and January, but from the middle of February to the end of March, it can be had in great perfection; when white flowers are very scarce.

These Spireas ought to be more generally known and grown. They are old enough, and have been in the country long enough, to be as common as blackberries, but they are not. If a demand was manifested, they could be produced almost as cheaply as any hedge plant, and where small hedges are wanted around a door yard or about a flower garden, or by the sides of walks, what could be more charming or have a greater effect than a hedge of such snowy whiteness all through the month of June?

It is easily propagated by layers or cuttings of the young wood. J. Salter.

Fertilizer for the Garden.—*Messrs. Editors:*—Having had some experience in the use of Peruvian guano as a fertilizer for the garden, the communication in the May number of the *Genesee Farmer*, on "Home made Guano," or hen manure, leads me to suggest to such of your readers as have any of this manure, and who may desire to raise fine vegetables in their gardens, that they collect it, dry it in the sun, and beat it into a powder. Then, either before or after planting the seed, scatter a small quantity broadcast over the surface of the ground. If the plants are up, and have been sown in rows, scatter the manure between the rows; and if the ground be dry, water the plants, that the manure may be conveyed directly to the roots. It will cause the plants to grow rapidly, and very large, and in many cases will preserve the plants from worms and enable them to withstand drouth. If you wish to apply the manure at the time of transplanting, put about half a tablespoonful in the hole beneath each plant, with a little earth between, as immediate contact with the plant might prove injurious. H. E.

The Curculio.—A reward of $500 was offered by the Kentucky Horticultural Society at its meeting in Louisville, last week, to the discoverer of a certain and effectual remedy against the curculio. Said remedy not to be so costly or troublesome as to prevent general application.

There is nothing which makes a farm look more agreeable or pleasant than a neat cottage, surrounded with a handsome lawn and well planted orchard and flower garden.

CULTIVATION OF THE HYACINTH.

This is the fabled (and famous) Asphodel of the Greeks, from *asphodelus*—ashes, so named because it was formerly planted on the graves of the dead, to nourish their manes, or souls, as its properties are acrid and stimulating; and it was one of the flowers of the Elysian Fields:

> "Angels saw I, to their bowers
> Bearing home their sheaves of flowers,
> And could hear their anthems swell,
> Reaping in the Asphodel."

There are all hues, from white to the deepest crimson and purple. These latter were preferred by the ancients as most faithful to its mythology, being regarded by them as the blood of HYACINTH, the beautiful youth, beloved and killed by APOLLO, whose quoit was turned aside, causing his friend's death, by ZEPHYR, the west wind, who was piqued by the god's preference for HYACINTH. APOLLO changed his blood into the flower bearing his name, on whose bells are dots, resembling *Ai! Ai!* APOLLO's Greek notes of grief—

> "Stamped on thy leaves, my cries thou shalt repeat."
> —OZELL.

A festival called "Hyacinthia" was annually celebrated for three days, at Sparta, in honor of APOLLO and his favorite HYACINTH, their king's nephew.

The *blue* (field) Hyacinth tinges the meadows of England about St. George's Day, and is thought to afford an emblem of the deep blue *sea*, over which England assumes the rule.

Yellow varieties are so faint in hue that they have to be placed always with *white*, for the benefit of contrast.

The Holland florists have already produced nearly eleven hundred varieties, although the root is not indigenous to the country. The *saline* atmosphere of Haerlem is supposed to have greatly aided in this result, hence *salt* is recommended to mix with their culture, in inland gardens at considerable distance from the sea. They are grown yearly in immense quantities from the seeds, which, however, require four years for flowering. Seeds, of course, are taken from the single flowers, the best specimens of which should now (June) be chosen for this purpose, and the remaining flowers cut from the stalk.

They are mostly raised from bulbs, which must be planted eight inches apart, and covered with four inches of clean sand. The colors should be alternated, if beds are devoted to them, and beds should be no more than four feet wide, admitting five rows. For great perfection the soil should be prepared two feet deep with sand, compost, fresh earth, &c. They will remain very pretty for two or three years, if not re-set.

If they are to be re-set, they should be taken up before the next year's buds begin to grow or form — about the last of June, when the foliage turns yellow, — the flower stems cut off, the fibres will dry and rub off, if the root is turned up. When they are ripened and cleaned, those that have no little spots of decay upon them may be wrapped in papers of sand, or saw dust, to be kept till October or November, the best time for planting. Later, although they are hardy, a light covering of leaves, straw or hay, will keep the blooms more beautiful. Decay is contagious to sound roots, and all spotted bulbs must be rejected as refuse. Good bulbs can be purchased at from six to ten dollars per hundred, though the period has been when two hundred pounds were offered for a single root. They are within the reach of all, and reward the little care required for their cultivation, by a *month* of bloom and beauty, and classic association, and fragrance, when Heaven puts on the blue of May.

CULTIVATION OF THE SMALLER FRUITS. — EDS. GENESEE FARMER: The cultivation of the smaller kinds of fruit, such as strawberries, raspberries, gooseberries, and currants, aside from the great luxuries they afford for the table, can be made quite profitable.

For strawberries, the soil cannot be made too rich, and the more pains there is taken with them, the finer will be the fruit, both in size and quality. This fruit is among the first that adorns our table. The luxuriant growth of the pines, and the rich, melting flavor of the fruit, entitle it to the highest esteem.

In order to get good raspberries and gooseberries, care must first be exercised in their selection, and then in keeping them free from grass and weeds. This will cause the vines to grow solid. Prune with reference to bearing shoots. It is customary, however, to cut out a portion of the old canes every spring. They must not be allowed to grow too thick, or too near each other, as it impairs the quality of the fruit.

The currant should occupy a prominent place in every garden. It is hardy and easily propagated, and the fruit forms a palatable dish, either green or ripe, when properly prepared.

We do not recommend letting them grow among the grass especially until after the plant, has been set three or four years. W. MICH.—*May* 15, 1856

THE FORSYTHIA VERIDISSIMA.

The Forsythia Veridissima is, I think, one of Fortune's discoveries. It was introduced into England from China in 1845, and named in honor of Mr. Forsyth, the celebrated gardener and writer on Horticulture. In England it is a hardy, deciduous shrub. In this country it is not quite so hardy, but decidedly deciduous, sometimes losing branch and all as far down as the wood is unripened. But it has stood the last two winters here almost with impunity, having only a few inches of the unripened wood killed. I think it is hardy enough to be very desirable as an early, spring-flowering shrub. There are now growing in Messrs. H. E. Hooker & Co.'s nursery, some ten or twelve fine plants, and flowering profusely, which have stood there in the most exposed situations for the last five or six years. It stands exposed and unprotected beside the osage orange, and is quite as hardy. I have a fine plant growing right at the south-west corner of my house, fully exposed to the bitterest southern wind, which, perhaps is the very worst position for any late-growing, hardy shrub, unprotected with straw or other covering. It is uninjured, save a few inches of the unripened tips, which is of no material consequence, as it requires to be pruned back eighteen inches to two feet. It is flowering profusely. It has stood there three winters.

All late-growing, hardy shrubs, when exposed to the winter sun, should always be protected with a little straw or other covering, for they are so very excitable that a few bright, mild days in winter sets all the sap in circulation, and a sudden depression in the atmosphere (a severe frost at night after a bright day) freezes and bursts all the sap vessels; consequently, in spring, when it should put forth a vigorous and healthy growth, the whole structure of the plant is ruptured and debilitated, whereas, if it had had the slightest kind of shade, it might have stood unharmed.

Forsythia Veridissima, if not absolutely indispensable, deserves, at least, a trial in every garden. It is the earliest of our spring flowering shrubs, and its profusion of bright yellow flowers are very beautiful; and their coming out before its leaves, renders it very conspicuous and desirable. A temperature of 60° will bring it into flower in any of the winter months.

It is a very desirable plant as a pot plant in winter. Any lady who is fond of her flowers can have it taken up and potted in moderately good earth any time before winter sets in, and placed in the cellar, or anywhere where it does not actually freeze, and supplied occasionally with a moderate supply of lukewarm water, and it will flower; and when in flower, it is very ornamental for the drawing-room, when other flowers are so very scarce. It is easily propagated by cuttings and layers. Its time of flowering, in England (out of doors), is February; here it is from middle of April to middle of May. J. Salter, Gardener to John F. Bush.—*Rochester, N. Y.*

Tie up your Flower Stems.—Almost every plant is prettier for having its stalk supported. Large ones should be tied two, three, or even four times, to keep them from being boxed and cuffed by the wind. Slender iron rods are recommended by various writers as very durable and cheap. If neatly painted green, they attract no attention, and never rust. Pinks, especially, should be supported.

Pruning Evergreens.—The *Horticulturist* says: "It is a question not often mooted, whether evergreens do or do not require the same cutting back as deciduous trees, when removed. Our own experience indicates that a slight trimming is useful. The mode of operation on the Norway Fir, for instance, is this: Cut back the limbs of last year's growth, using the dissolved shell-lac on cuts, and leaving the leader untouched. The effect is the same as that on deciduous trees, with this additional advantage—the plant throws out two, probably more, leading limbs, and the result is that of thickening the growth and improving the appearance. For the sake of experiment, we carried this system to as great an extent, with a single specimen, as possible; ere many years elapsed, the limbs became so heavy with numerous branches, that they broke with their own weight. Others, cut back once in three years, have attained rare beauty and a close habit.

Names Written with Flowers.—A pleasant little surprise to children, the memory of which they would carry to their graves, would be to see their names written in tender green leaves on the fresh earth. This is often done by drawing the name with a stick, in a smoothly raked bed, and sowing the seeds of some annual in the shallow furrow. If the seeds are soaked in water for a few hours, and covered but lightly with the soil, the name will appear almost before the weeds, which must of course be kept out. June is rather late for sowing annuals, but they might be transplanted from other beds while they are small and of uniform size, and produce the effect at once. An eminent man once described a discovery of this sort as a landmark of peculiar happiness in his boyhood.

To Kill Insects on Apple Trees.—The *Farmers' Encyclopædia* says:—"Insects upon apple trees may be killed by clay and water made as thin as whitewash, and mixing with every six gallons of it, two pounds of cream of tartar, one pound of soft soap, and half a peck of quick lime. When you think that the weather is likely to continue dry for some time, take a bucket-full of this mixture, and with a large brush, wash over the bark of the trees, wherever you think it has been infected with the bug. Care must be taken to apply it in dry weather."

Colored Plates in the Horticulturist.—The *Country Gentleman* says:

"In noticing this number of the *Horticulturist*, we should not forget to mention the beautiful colored plate, representing two new and splendid varieties of the Fuchsia, which exhibit so brilliant a combination of rich colors, that a little five-year child, on seeing the picture, exclaimed, 'Oh! that is handsomer than apples or plum-cake.'"

The Ohio *Farmer* estimates from statistics of the Horticultural Society, that there are two thousand acres of Catawba vines in cultivation in the vicinity of Cincinnati, of which 1,000 acres are in full bearing. By the average production of the last few years this area of vines will yield 500,000 gallons of wine, which yield must, in a short time, be doubled. The demand for the wine is increasing faster than the supply.

Ladies' Department.

THE ARROW AND THE SONG.

The following song has the strong recommendation that it is Mrs. Browning's favorite among the poems of Longfellow:

"I shot an arrow into the air,
It fell to earth I know not where;
For so swiftly it flew, the sight
Could not follow in its flight.

"I breathed a song into the air,
It fell to earth I knew not where;
For who has sight so keen and strong,
That it can follow the flight of song?

"Long, long afterward, in an oak
I found the arrow, still unbroke;
And the song, from beginning to end,
I found it again in the heart of a friend."

THE OLD HOMESTEAD.

Whene'er the happiest time is come
That to the year belongs,
Of uplands bright with harvest gold,
And meadows full of songs—
When fields of yet unripened corn,
And daily garnering stores,
Remind the thrifty husbandman
Of ampler threshing floors;
How pleasant, from the din and dust
Of the thoroughfare aloof,
Seems the old-fashioned homestead,
With its steep and mossy roof.

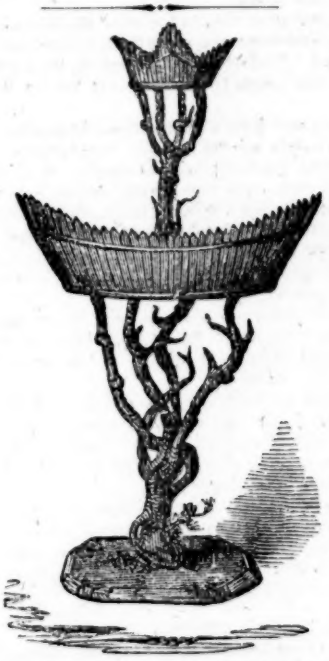
When home the woodman plods, with axe
Upon his shoulder swung,
And in the knotted apple tree
Are scythe and sickle hung;
When light the swallows twitter
'Neath the rafters of the shed,
And the table on the ivied porch
With decent care is spread;
The heart is light and freer
Than beats in populous town,
In the old-fashioned homestead,
With gables sharp and brown.

When the flowers of summer perish
In the cold and bitter rain,
And the little birds with weary wings
Have gone across the main;
When curls the blue smoke upwards,
Up towards the bluer sky,
And cold along the naked hills,
And white the snow drifts lie;
In tales of love and glory,
Is forgot the cloud and storm,
In the old-fashioned homestead,
With hearthstone large and warm.

PROVERBS.

A correspondent of the *Homestead* furnishes the following Proverbs, which are good at all times and worth remembering:

"Silks and satins put out the kitchen fire;" and here follow a few others. "A stitch in time saves nine." "Too many cooks spoil the broth." Light heeled mothers make heavy heeled daughters." "Contrivance is better than hard work;" or "One good planner is better than two workers." "Many hands make light work." "A fat kitchen makes a lean will." "Cut your coat according to your cloth." "Nothing venture, nothing have." "Elbow grease is the best polish." "Hunger is the best sauce." "Lazy folks take the most pains." "The proof of the pudding is the eating." "The sweetest wine makes sharpest vinegar." "You can't *eat* your cake and *keep* it." "There's no making a silk purse of a sow's ear." "An apple an egg and a nut, you may eat after a slut."—"Easy teaching the cat the road to the kirn." "Who goes a borrowing goes a sorrowing." "Every crow thinks its own young the whitest." "A scalded dog dreads cold water." "May-bees are not aye honey bees." "Gie a bairn its will and a whelp its fill, an' baith 'll gae to the de'il." "Keep your breath to cool your porridge." "The foot on the cradle, the hand on the reel, is a sign that a woman means to do weel." "Wilful waste makes woful want." "Lose an hour in the morning and you may run after it all day without catching it." "Every herring must hang by its own head." "Rich harvests make men prodigal, poor ones provident." Measure twice, cut but once." Quick to hear and slow to speak." "Cool in the same skin you heat in."



Domestic Flower Stands.—The effect of parapet walls and marble vases, and other expensive devices that adorn the paterres of wealth, may be pleasantly and economically imitated by mounting old barrels sawn in halves, boxes, pails, &c., on mounds of earth, or on carved feet, or rural standards, such as twisted boughs. If these receptacles are neatly painted, and half filled with rubbish first, to prevent their being too heavy, then with two feet of mould, they will accommodate all common roots and bulbs; and with creepers falling gracefuliy over their brims, will present a picturesque and charming appearance, and could be cared for by ladies who are deprived of the pleasure of flower culture by the fatigue of bending over the beds. It is, too, easy at any time to shelter them from frost and storms.

How to Mend China.—From an English Almanac we cut a recipe for mending china, a long time since, and the opportunity having occurred for trying, we found it admirable, the fracture scarcely being visible after the article was repaired. It is thus made: Take a very thick solution of gum arabic in water, and stir into it plaster of Paris until the mixture becomes a viscous paste. Apply it with a brush to the fractured edges, and stick them together. In three days the article cannot be broken in the same place. The whiteness of the cement renders it doubly valuable.

Editor's Table.

SILESIAN SHEEP SHEARING.—The Silesian sheep owned by Messrs. CHAMBERLAIN, CAMPBELL & LADD, were sheared at Red Hock, Duchess Co., N. Y., May 13, and we give the following summary from figures furnished by SANFORD HOWARD, Esq., Editor of the *Boston Cultivator*, who was present.

Five breeding ewes, that had suckled lambs from last December, sheared an average of 8 lbs. 14 oz. of unwashed wool per head. Their mean weight was 69½ lbs. each, so that 100 lbs. live weight of animal gave 12 lbs. 13 oz. of wool.

Five yearling ewes sheared less than 11 months previous and whose mean weight was 62½ lbs. each, sheared 8 lbs. 4 oz. each, or 100 lbs. live weight gave 13 lbs. 2 oz. of wool.

A buck of last year's importation, sheared less than eleven months ago, and weighing 110 lbs., sheared 13¼ lbs. of wool, or 100 lbs. live weight, gave 12 lbs. of wool.

Two yearling bucks, mean weight 69 lbs wool; less than eleven months growth, sheared 8 lbs. 7 oz. each, or 100 lbs. live weight, gave 12½ lbs. of wool.

A fine flock of French Merinoes were also sheared.—Five yearling ewes, mean weight 71 lbs., wool 17 months growth, sheared 13 lbs. 11 oz. each, or 100 lbs. live weight gave 19 lbs. 2 oz. of wool.

Mr. HOWARD says: "It was estimated that a deduction of 25 per cent would make this wool equal in cleanness to ordinary washed wool, and in this condition, it is said by those who are well acquainted with the wool market, it would bring sixty cents per pound."

The above figures show that the Silesian sheep produce a large quantity of wool in proportion to their live weight, and all who saw these beautiful animals at our last state fair, and at the Fair of the United States Agricultural Society in Boston, will not need to be informed that it is of a superior quality.

GREAT SALE OF IMPROVED CATTLE.—By reference to our advertising columns, it will be seen that L. G. MORRIS Esq., of Mount Fordham, N. Y., has concluded to sell at public auction, without reserve, his *entire herd* of Devon Cattle, his entire flock of South Down Sheep—many of which have no superior on this or on the other side of the Atlantic—his entire herd of Berkshire and Essex hogs, and about fifteen shorthorn bulls and bull calves. It was first Mr. MORRIS' intention to give up breeding altogether, but we are glad to learn that he has been persuaded to keep a portion of his herd of shorthorns, and to give his undivided attention to them hereafter.

EFFECT OF THE WINTER ON QUINCE TREES.—In a recent conversation with Mr. ZERAH BURR, of Perinton, in this county, he informed us that his quince trees have been materially injured by the severe cold of the past two winters. He has an orchard containing one hundred and fifty trees, that have been set out over twenty-five years, and which yields, on an average, over one hundred barrels of fruit in a season. The orchard has received good cultivation, and the trunks of many of the trees are over three feet in circumference. This spring many of the trees have died, and many other are so severely injured that Mr. B. fears they will not recover. Have similar effects been observed in other sections?

The GENESEE FARMER for May is one of the best ever issued.—*Hollidaysburgh (Pa.) Register.*

UNDER-DRAINING FOR FRUIT TREES.—The *Horticulturist* states that nurserymen who had under-drained their grounds, were observed to be delivering their trees at least *ten days earlier* than their neighbors who neglected it—a fact which we can readily believe, and one which is of immense importance to the nursery interest. Crops of all kinds are earlier on under-drained land, and the land can be plowed earlier in the spring and later in the fall, and sooner after heavy rain, than land which has not been drained. The depredations of the wheat midge may be materially lessened by having wheat mature earlier, and the fact that it does ripen sooner on drained land than on undrained land, cannot for a moment be doubted.

WE are indebted to Prof. GEO. H. COOK, for the second annual Report of the Geological survey of the State of New Jersey for the year 1855. It contains a large amount of valuable information, from which we hope to draw for the benefit of our readers at some future time.

Notices of New Books, Periodicals, &c.

THE FLOWER GARDEN; or, Breck's Book of Flowers—in which are described all the various hardy Herbaceous Perennials, Annuals, Shrubbery Plants, and Evergreen Trees, desirable for ornamental purposes or cultivation. By JOSEPH BRECK, Seedsman, &c. Boston: Published by John P. Jewett & Co. 1856.

Every cultivator of flowers should possess this work. It is an elegant book of about 600 pages, containing descriptions of nearly every flower to be found in the most extensive collections, with remarks in regard to their cultivation in this country. It is not a reprint of an English work; the author is an experienced American florist, and writes for American readers, and with reference to American climate. The demand for this work has been so great that the former editions were exhausted. The present edition contains a new and useful chapter on House Plants, and is altogether such a "Book of Flowers" as we have pleasure in recommending to our readers.

THE MOTHER'S RULE; or the Right Way and the Wrong Way. Edited by T. S. ARTHUR. Rochester, published by E. DARROW & Bro., 65 Main-st. 1856.

This is a really excellent book. No mother can rise fromt he perusal of these delightful little stories, without being better prepared to govern wisely her household, and to control the feelings of herself and her children.

THE WEDDING GUEST: A Friend of the Bride and the Bridegroom. Edited by T. S. ARTHUR. Rochester: Published by E. DARROW & BRO., 65 Main-st. 1856.

This is a collection of short sketches of the different phases of married life They are all moral in their tone, and elevating and refining in their sentiment, containing much sound advice, and affording considerable entertainment. The typography and binding of the book are excellent. Send the publishers seventy-five cents worth of postage stamps and get the book.

THE HEROES OF METHODISM, containing Sketches of Eminent Methodist Ministers, and Characteristic Anecdotes of their Personal History. By Rev. J. B. WAKELEY. New York: CARLTON & PHILLIPS. 1856.

This is an exceedingly interesting book. It contains sketches of the lives of twenty-three English and American Methodist Ministers, with several excellent steel engravings. The work is destined to a great sale, not only in the Methodist connexion, but among the more liberal minded of other denominations.

SELECT LECTURES: Comprising some of the more valuable Lectures delivered before the Young Men's Christian Association, in Exeter Hall, London, from 1847 to 1855. Edited by Rev. D. W. CLARK, D. D. Cincinnati: L. SWORMSTEDT and A. POE. 1856.

We have read these Lectures with unmingled pleasure. They are on subjects of deep interest to all, and especially to young men. No one can read them without being the better for it. We have the Lectures as published in London, and have often wished that at least a portion of them might be re-published in this country. Dr. CLARK has made a most judicious selection, and the publishers have got up the book in superior style. We trust it will have a great sale.

LIFE OF SCHAMYL, and Narrative of the Circassian War of Independence against Russia. By J. MILTON MACKIE, Author of Cosas de Espana. Boston: JOHN P. JEWETT & Co. 1856.

Those who desire a more intimate acquaintance with the life and manners of the remarkable people inhabiting the Caucasian mountains, will not fail to read this book with interest.

Inquiries and Answers.

(WM. LIVINGSTON, Laurencebury, Pa.) You can get the Lawton Blackberry from WM. LAWTON, of New Rochelle, N. Y. Houghton's Seedling Gooseberry, and Hovey's Seedling Strawberry you can get from any nurrsery. The American Kitchen Garden, which we can send you for 25 cents, postage paid, may be of use to you.

MICE AND FRUIT TREES.—Please give us, in the *Farmer*, the best way to prevent mice from barking fruit trees. To pack the snow around the trees will save many, but cannot a composition readily be put on in the fall, harmless to the tree, and at the same time offensive to the mice? H. J. FOSTER—*Palmyra, N. Y.*

IMPURE WELL WATER.—I have a well from which my house is supplied with water, that is about twenty-five feet deep. For several years past, the water for a time becomes very offensive to the smell and taste. Some years it regains its purity, to all appearance, in from two to four weeks. Last year we could not use it for over two months. I shall be very much obliged if any of your readers can tell me the cause, and the remedy.

I would say I have tried cleaning; also quick lime, but without success. There is a wooden pump in it, which has been preceded by at least two other wooden and one lead pipe pump. D.—*Gates.*

CULTIVATION OF THE PIE PLANT.—I wish some information on the cultivation of the Pie Plant. Last fall I obtained some roots, set them in a good rich soil, made doubly so by a bountiful supply of chip manure from an old wood pile, where wood has been sawed and chopped for many years. This spring they came up with a head nearly as large as an egg, and the leaves unfolded without rising on a stem at all. They are now putting forth blossom buds. If you or any of your intelligent correspondents can tell me thro' your journal how I can remedy the defect, they will oblige a subriber. D.—*Gates.*

CURE FOR POLL EVIL.—EDS. GENESEE FARMER:—I see in your May number a request for a cure for the Pole Evil. Now, as I have derived much useful information from the pages of the *Genesee Farmer*, I think it my duty to contribute my mite for the good of your readers, as they have done for me.

Several years ago I had a valuable mare badly affected with Pole Evil, and after trying many remedies without any good effect, I used what is generally called Fish Oil, or Tanner's Oil, applied freely to the sore, using a feather to anoint the inside, and rubbing freely with the hand, on the outside, daily, until she was perfectly cured, which was in a short time; and not only was she perfectly cured, but there was no stiffness of the neck, and "sticking out" of the head, as is often the case after the cure of the Pole Evil. I still own the mare, cured some ten years ago, and there has never been any appearance of a return of the disease; but she has got the *Heaves.*

Will some of your numerous correspondents inform me what is best to relieve or cure this disease. J. D. K.—*North Liberty, Ohio.*

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

FOR SALE

HAVING to devote my time to other business, I have determined to sell several Farms, now in cultivation under my own direction, and also a Grist Mill and Saw Mill. The mills are situated about six miles from the county seat in a thickly settled portion of the country, on never failing streams, and healthy locations. There are two run of stones in the Grist Mill, together with all the machinery for manufacturing flour, buckwheat flour, corn meal, &c. The mill is 60 by 40 feet, three stories high, with a 16 feet wheel The Saw Mill is run by a submerged center discharging wheel, cast gearing; and the Mills, within 80 feet of each other, are run by different streams, and were built in 1851. There is attached to the mills about 200 acres of land, part of which is in cultivation in grain and grass. There are four tenements on the land, rented out; three of them, without any land, pay $100. The mills are under my own direction, and the miller rents the farm, and pays crop rent. The mills rented last year for $400. There is a large portion of bo tom land on this farm which is valuable. The Alexandria, Loudoun & Hampshire Railroad passes within 100 yards of the mill, where there is to be a station, &c.

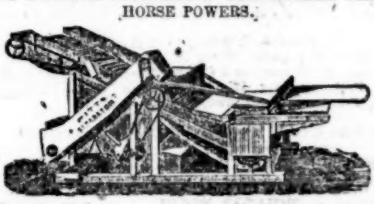
I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Menasses Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856—tf. GEO. W. HUNTS, JR.

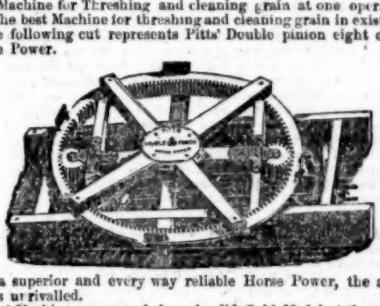
ATTENTION THRESHERS!

PITTS' PREMIUM SEPARATORS AND DOUBLE PINION HORSE POWERS.



THE above cut is a representation of the justly celebrated Pitts' Machine for Threshing and cleaning grain at one operation. It is the best Machine for threshing and cleaning grain in existence.

The following cut represents Pitts' Double pinion eight or ten Horse Power.



As a superior and every way reliable Horse Power, the above stands unrivalled.

Pitts' Machine was awarded a splendid Gold Medal at the recent Paris exhibition in France.

We call attention to the fact that we are now manufacturing the above Machines at Rochester, N. Y., in a more substantial, durable and of a larger capacity than any hitherto built by us in this city, having all the latest improvements made by John A. Pitts.

We also make a new style of Straw Carriers, more portable than any heretofore made. We can furnish the latest and best all iron Power for eight or ten horses.

We invite all who intend purchasing to examine our machines; they will more than equal the best expectations of the public.

ALEXANDER GORDON & CO.,
Successors to JOHN A. PITTS,
May 1—2t. 68 South St. Paul street, Rochester, N. Y.

McCORMICK'S REAPING AND MOWING MACHINE,

THAT took the GREAT MEDAL *at the World's Fair at London*, and the GRAND GOLD MEDAL OF HONOR *at the French Exhibition at Paris*, and the *only First Class Medals awarded to any Agricultural Implement at either place.* Manny's Machine, and Atkins' Self-Raker stood in the *Third and Fourth Classes, and received Silver Medals only.* I quote from the official report as follows:

"In Agriculture, the Gold Grand Medal of Honor was awarded to C. H. McCormick, of Chicago, Illinois, United States of America, inventor of Reaping Machines, that have performed the best at every trial, and is the type after which all the other Reapers have been made."

The Hon. William Elliott, Commissioner of the State of South Carolina, in his report to the Governor of that State, says: "I had the pleasure of witnessing the trial of McCormick's Machine, and second triumph in the field of Trappe's, whose model implements, selected from France and England, were brought in competition with it only to test its superiority. Its success was so distinguished as to disarm envy, and bring down generous cheers from the vanquished parties. After its repeated triumphs, the Emperor purchased my machine, and not Manny's, as alleged by the proprietors of that Machine, who, to give character to it, unfairly and falsely claimed that it took the first premium at Paris.

There is no machine in use of the kind, so strongly built and durable, (no other having a wrought iron finger beam, and malleable iron fingers, which add greatly to its strength and durability,) requiring as little repairing, or that will perform as much with less horse power. I consider it perfect as a Reaper and a Mower, performing the work as well as two separate machines, at a great reduction in the cost to the purchaser.

After the extensive sale and use of it, and its unparalleled success, no extended notice of it is necessary, and I will only refer to my handbill for a more particular account of it. The broad warrantee which permits a trial of it before it is paid for, is a sure guarantee that it is what it is recommended to be. Machines will be forwarded to any part of the States or the Canadas, where there are no local agents, if ordered of THOMAS J. PATTERSON, General Agent at Rochester, office at the National Hotel. Price $150; $50 payable on delivery, and $100 on the first of December next, with interest; or $145 cash. Subject to freight from Buffalo, St. Catherines or Collingwood.

AGENTS AUTHORISED TO SELL.—PARDON D. WRIGHT, No. 20 Mumford St, Rochester. Seth Balcom, Lewiston; R. Van Brocklin, Lockport; C. Wolcott, Caryville; W. Bidleman, Medina; C. C. Searl, Albion; Bowman, Walker & Co., Palmyra; W. E. Pomeroy, Syracuse; M. B. Flinn, Rushville; Morse, Antis & Little, Canandaigua; J Tillman, Geneva; Waterman & Jackson, Vienna; Jones & Lawrence, Penn Yan; J. D. Payne, Jefferson; H. Westlake, Horseheads; J. D. Freer, Cortland, C. F. Doty & Co., Genesee; L. C. Bingham, Mount Morris.

In Canada—J. M. Farewell, Grimsby; F. H. Hawkins, Dundas; G. Tilden, Brantford; W. Caperon, Paris; G. W. & J. J. Park, Waterford and Simcoe; W. Richardson & Co., St. Thomas; Leonard Peck Goodrich; H. P. Brown & Co., Woodstock; John McGee, Toronto; Jacob Mead, Bowmansville; Brown, Post & Co, Whitby.

C. H. McCORMICK,
Rochester, June 1, 1856. By THOS. J. PATTERSON.

FARMERS, YOUR ATTENTION IS ASKED TO

HYDE & WRIGHT'S PATENT HORSE HOE OR CULTIVATOR PLOW.

DESIGNED and better adapted than any other implement for hoeing Corn, Broom Corn, Potatoes, Cotton, or any other crop requiring the use of the Horse or Hand Hoe. It has proved itself the most valuable implement yet invented for the purpose intended. It has been in use in Western New York for the past three years, hundreds of them having been sold on trial and none returned. Its great utility has been demonstrated in the fact that one day to the acre, with a man and horse is all the expense of cultivating and hoeing a field of corn for the season. If used as directed, hand hoeing, in nine cases out of ten, may be entirely dispensed with. We have numerous certificates of the most satisfactory character, which we would be happy to show the public. We extract from a letter received from one of the largest and most influential farmers in our State, the following:

"Nestoria Farm, Mottville, N. Y.

MESSRS. A. GORDON & Co.—I received the Horse Hoe, which I have tried, and am much pleased with it, and my farmer says it is the very best thing he ever saw. I have invited my neighbors to come and see it, and have no doubt it will be adopted generally. I congratulate you as the manufacturers of so important and useful an implement. Yours, ALFRED COBB."

Farmers may rely on realizing their best expectations from the use of the Horse Hoe. Price, $8—if ground and polished, $8 50. We are now making, and have steel ordered for 4,000. No Farmer should be without one. They are having an unlimited sale. Call upon or address ALEX. GORDON & CO.

May 1—2t. 68 South St. Paul street, Rochester, N. Y.

FOR SALE AT COST PRICES,

TO CLOSE A CONSIGNMENT CONSISTING OF

MOWERS AND REAPERS, (Forbush's latest Improved,) Straw Cutters, Corn Shellers, Fanning Mills, Plows, Garden Rollers, Wheel Barrows, &c. A. LONGETT.

June 1—2t. 34 Cliff street, corner of Fulton, New York.

HUSSEY'S COMBINED AND IMPROVED REAPER AND MOWER.

MANUFACTURED BY HUSSEY & CO., AUBURN, N. Y.

THIS has been admitted for years to be the best Reaper in every particular that has ever been introduced, and by adding some Improvements, we are now prepared to offer the farmer the strongest, most durable, and therefore the cheapest combined

GRAIN AND GRASS CUTTER

now in use, and we have no hesitation in warranting it to be as far ahead of all others for Mowing, as it has heretofore been for Reaping.

The following are a few of the many improvements we have made within the last year, to make it a perfect combined machine:

We have ALTERED THE CUTTER BAR, for mowing (from wood six inches wide and two inches thick), to wrought iron, three inches wide and one inch thick, formed of two pieces, with wrought-iron open cap guards riveted between the two, which forms a strong, durable and light cutter bar.

We have also attached an entirely NEW SEPERATOR to the out end of the cutter bar, with a wheel attached which carries the cutter bar clear from the ground, and lessons the draught of the machine at least one-third, and dispenses with all side draft, and entirely obviates all trouble in backing or turning around.

We have also made a very essential IMPROVEMENT IN THE TONGUE, by which the cutter can be raised in a moment to pass over cut grass, or pass from field to field.

Our machines work with a loose pole, with a wheel to regulate the cutter, which allows them to cut the same length of stubble in hollows that they cut on knolls, and makes much lighter work for a team than those working with a stiff pole. Our machines, both for

REAPING AND MOWING,

cut a full five-foot swath, and are built of the best and most durable materials, and we warrant them to work well at the slowest gait a team can walk, and likewise *capable of cutting from fifteen to twenty acres of grain or grass per day.*

Price of the Combined Machines, complete, with all our late improvements, together with a spring-bottom, cushioned seat, $130 00, at our manufactory.

☞ All communications addressed to us on the subject will meet with prompt attention. HUSSEY & CO.

Auburn, N. Y., 1856.—jel 1t

THE BEST BOOK FOR AGENTS!

TO PERSONS OUT OF EMPLOYMENT.

An Elegant Gift for a Father to Present to his Family.

☞ Send for One Copy and Try it among your Friends. ☜

WANTED—Agents in every section of the United States, to circulate

SEARS' LARGE TYPE QUARTO BIBLE.

For Family Use, entitled

THE PEOPLE'S PICTORIAL DOMESTIC BIBLE,

With about One Thousand Engravings.

This useful Book is destined, if we can form an opinion from the notices of the Press, to have an unprecedented circulation in every section of our wide-spread continent, and to form a distinct era in the sale of our works. It will no doubt, in a few years become the FAMILY BIBLE OF THE AMERICAN PEOPLE.

The most liberal remuneration will be allowed to all persons who may be pleased to procure subscribers to the above. From fifty to one hundred copies may easily be circulated and sold in each of the principal cities and towns of the Union. *It will be sold by Subscription only.*

Application should be made at once, as the field will be soon occupied.

Persons wishing to act as Agents, and do a safe business, can send for a specimen copy.

On receipt of the established price, Six Dollars, the PICTORIAL FAMILY BIBLE, with a well-bound Subscription Book, will be carefully boxed, and forwarded per express, at our risk and expense, to any central town or village in the United States, excepting those of California, Oregon and Texas.

Register your Letters, and your Money will come safe.

Orders respectfully solicited. For further particulars, address the Subscriber. ROBERT SEARS,

jel 1t 181 William Street, New York.

L. G. MORRIS' AUCTION SALE OF FIRST CLASS IMPROVED BREEDS OF DOMESTIC ANIMALS,

TO TAKE PLACE AT MT. FORDHAM, JUNE 24 and 25, 1856

THE Seventh Annual Catalogue, illustrated with Celebrated and Prize Animals, and fully descriptive of each lot to be sold, as to ages, pedigrees, &c., will be ready for delivery on or about the 25th of May, and will then be forwarded to all my present Stock Correspondents, and as many others as may desire it.

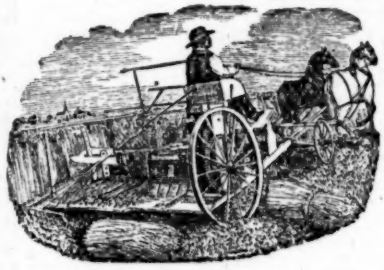
L. G. MORRIS.

Mount Fordham, Westchester Co., N. Y., May 15, 1856.—jel

ATKINS' AUTOMATON, OR

SELF-RAKING REAPER AND MOWER.

THE BEST MACHINE IN USE.



1 (the first) used in 1852.
40 used successfully in 1853.
300 in twenty different States in 1854.
1200 in all parts of the Union in 1855.
3000 building for the harvest of 1856.

THERE are six good reasons for this unparalleled increase and great popularity: 1st. It is strong and reliable, and easily managed. 2d. It saves the hard labor of raking. 3d, It saves at least another hand in binding. 4th, It saves shattering by the careful handling in raking; besides, the straw being laid straight, it is well secured in the sheaf, and does not drop in the after handling, and the heads are not exposed in the stack, so that the *grain* saving even exceeds the *labor* saving. 5th. It is a good mower, being one of the most convertible machines in use. 6th, It has a knife that does not choke.

Its other excellencies, too numerous to mention here, are fairly given in the circulars. Its intrinsic worth is also attested by the award (mostly in only 3 years) of

OVER SEVENTY FIRST PREMIUMS!

Two First Premiums at the New York Crystal Palace, the "Scott Legacy Medal," Franklin Institute, Pa., &c., &c.

TERMS.—REAPER AND MOWER, $200—$75 on receipt of Machine; $75 September 1st; $50 December 1st. REAPER only, $175—$75 on receipt of Machine; $50 September 1st; $50 December 1st. $10 added for longer credit. 10 per cent. interest from May 1st, if payments are not promptly made. ☞ Discount at 12 per cent. per annum for cash in advance, besides interest.

Farmers whishing these celebrated Reapers and Mowers for the next harvest, must send in their orders soon to the following Agents:

E. D. HALLOCK, No. 2 Agricultural Buildings, Rochester.
ENSIGN & HESTON, Batavia, Genesee Co.
Z. W. SMITH & Co., Honeoye Falls, or NORTON B. SMITH, Traveling Agent for Livingston and Ontario counties.
A. D. AYERS, Romulus, Seneca Co.
Or J. D. STAFFORD, General Agent for the State of New York, Brockport, Monroe Co.

Local Agents wanted in every county in the State, to whom a liberal commission will be given. Apply to J. D. Stafford as above.

Order early, if you would not be disappointed.

Pamphlets giving *impartially* the opinions of Farmers, together with orders, notes, &c., mailed to applicants, and prepaid.

☞ Write to us at Caicago, (Ill.,) Dayton, (Ohio.,) or Baltimore, (Md.,) which ever is nearest to you.

J. S. WRIGHT & CO.,

"Prairie Farmer" Works, Chicago, May 1.—3t.

ITALIAN BUCKWHEAT.

I WISH to call the attention of Farmers to a new cereal which I obtained in 1854, from a gentleman who discovered a single plant of it in the Northern part of this State. It grows four or five feet high, each seed produces from one to six branches, which come up from the soil; at the top of each there are from one to three hundred branches, from one inch to one foot in length, all loaded with very heavy grain, which is oval and shining, and very beautiful. The straw is nearly equal to hay, and when first cut, yields to the palate a great amount of saccharine. The seed weighs about 60 lbs. per bushel, and for horses, cattle, pigs, or poultry, is equal to corn. The flour from it, when properly prepared, makes a rich and beautiful cake for the table. It is well authenticated that it will produce from 60 to 80 bushels per acre, and some tell of its yielding a still greater amount. It is unquestionably one of the most productive and profitable cereals ever raised in this country. One peck is an abundance of seed per acre. It should be sown not earlier than the 15th of June, nor later than the 10th or 15th of July.

I have some of the seed to dispose of. Price $2 per peck. It can be sent by Express to any part of the country. For further particulars see an article in the *Onondaga Gazette*, of April 28th, 1856, or address,

W. CARDELL,
May 1—2t. Baldwinsville, Onondaga Co., N. Y.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
Every Lady her own Flower Gardener. Price 25 cents.
The American Kitchen Gardener. Price 25 cents.
The American Rose Culturer. Price 25 cents.
Prize Essay on Manures. By S. L. Dana. Price 25 cents.
Skinner's Elements of Agriculture. Price 25 cents.
The Pests of the Farm, with directions for extirpation. Price 25 cents.
Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
The Hog—its Diseases and Management. Price 25 cents.
The American Bird Fancier—Breeding, Raising, &c. 25 cts.
Domestic Fowls and Ornamental Poultry. Price 25 cents.
Chemistry made Easy for the Use of Farmers. Price 25 cts.
The American Poultry Yard. The cheapest and best book published. Price $1.
The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. $1.25.
Buist's Kitchen Gardener. Price 75 cents.
Stockhart's Chemical Field Lectures. Price $1.
Wilson on the Cultivation of Flax. Price 25 cents.
The Farmer's Cyclopedia. By Blake. Price $1.25.
Allen's Rural Architecture. Price $1.25.
Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
Johnston's Agricultural Chemistry. Price $1.25.
Johnston's Elements of Agricultural Chemistry and Geology. Price $1.
Randall's Sheep Husbandry. Price $1.25.
Miner's American Bee-Keeper's Manual. Price $1.
Dadd's American Cattle Doctor. Complete. Price $1.
Fessenden's Complete Farmer and Gardener. 1 vol. Price $1.25.
Allen's Treatise on the Culture of the Grape. Price $1.
Youatt on the Breeds and Management of Sheep. Price 75 cts.
Youatt on the Hog. Complete. Price 60 cents.
Youatt and Martin on Cattle. By Stevens. Price $1.25.
The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price $2.
Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price $4.
Allen's American Farm Book. Price $1.
The American Florist's Guide. Price 75 cents.
The Cottage and Farm Bee-Keeper. Price 50 cents.
Hoare on the Culture of the Grape. Price 50 cents.
Country Dwellings; or the American Architect. Price $6.
Lindley's Guide to the Orchard. Price $1.25.
Gunn's Domestic Medicine. A book for every married man and woman. Price $3.
Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
Allen's Diseases of Domestic Animals. Price 75 cents.
Saxton's Rural Hand-books. 2 vols. Price $2.50.
Beattie's Southern Agriculture. Price $1.
Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price $1.25.
The Farmer's Land Measurer; or Pocket Companion. Price 50 cents.
Buist's American Flower Garden Directory. Price $1.25.
The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.
Quinby's Mysteries of Bee-Keeping explained. Price $1.
The Fruit Garden. P. Barry. Price $1.
American Fruit Culturist. J. J. Thomas. Price $1.
Downing's Fruits and Fruit Trees of America. Price $1.50.
Cole's American Fruit Book. Price 50 cents.
The Stable Book. Stewart. Price $1.
Lindley's Horticulture. Downing. Price $1.25.
Munn's Practical Land Drainer. Price 50 cents.
Ladies' Companion to the Flower Garden. Downing. Price $1.25.
Norton's Elements of Scientific Agriculture. Price 75 cents.
Landscape Gardening, Parks, and Pleasure Grounds. Smith. Price $1.25.
Rural Annual and Horticultural Directory. Price 25 cents. Do. in cloth, 50 cents.

The above will be sent free upon receipt of price annexed.

UNION AGRICULT'L WAREHOUSE AND SEED STORE.

No. 23 FULTON ST., (NEAR FULTON MARKET.) NEW YORK.

PLOWS, a large and choice selection of the best patterns now in use, comprising a variety of forty different patterns and sizes, adapted to the various soils.
Harrows, square, triangular and hinged.
Seed Drills, for sowing all kinds of garden or field seed in drills, to be used by hand or horse.
Rollers, field and garden sizes.
Garden Engines, Wheel-barrows, &c.
Together with an extensive assortment of Horticultural Implements, Field and Garden Seeds, for sale by

April 3t. A. M. TREADWELL, No. 23 Fulton St., N. Y.

1856.

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